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1939

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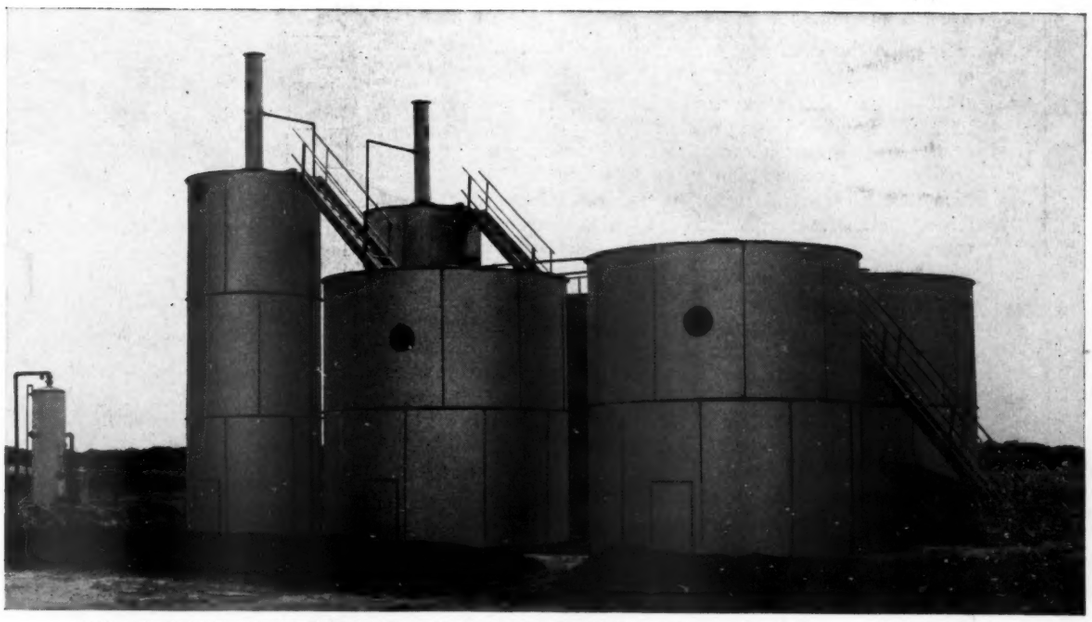

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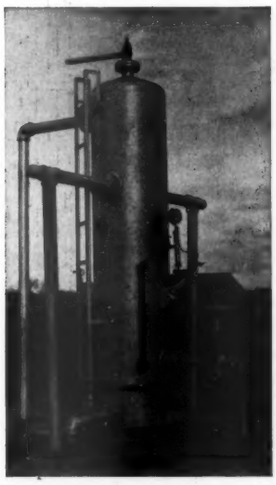
OUR IDEAL IS *"PERFECTION"*

in Bolted Tanks—Walkways—Separators



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Oil operators want the *best possible* equipment—can only afford to buy the best. Ever since MALONEY pioneered the Bolted Steel Tank, we have striven for *perfection* in this product. Our Walkway has been brought to an equal degree of perfection. Recently we introduced the MALONEY Separator because we saw in this separator important progress towards perfection in the separator field.

Our engineers do everything in their power to give you *perfection* in MALONEY products. This means long life, efficient service, economy.

MALONEY TANKS offer such important advantages as highest-grade copper-bearing steel, patented crimp at seams and joints, live rubber packing, bolts of 95,000-lb. strength, 30"x48" clean-out opening. They are furnished painted with our special Kromic Red Iron Oxide primer and heavy Aluminum Finish Coat (all parts cleaned before painting); or Double-Hot-Dip Galvanized. 100 to 10,000 bbls.

MALONEY STAIRWAYS AND WALKWAYS are made in 4, 6, and 8-foot units of 26" width. Tread units are welded at corners, and cross supports are welded beneath tread every 2 feet. Non-sagging. Painted or Double-Hot-Dip Galvanized.

MALONEY SEPARATORS offer the improvements of: Higher vertical travel in initial chamber, extra-thorough scrubbing in new-type knock-out element, mist traps of improved, patented design, boiler-type manholes held by 2 bolts, full-area valve passages. Thoroughly cleaned before painting with special primer and heavy Aluminum Finish Coat.

Warehouse Stocks at Principal Petroleum Points, including Salem, Ill.

MALONEY TANK MFG COMPANY
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MALONEY

SECURALOY *Cuts* EXPLORATORY COSTS!

NO. 5 OF A SERIES SHOWING HOW "SECURALOY" INCREASES DEVELOPMENT EFFICIENCIES.

Here is the way many operators doing exploratory work are cutting their costs and at the same time increasing the accuracy and safety of their testing operations.

When they drill into a sand with productive possibilities, instead of setting and cementing a string of casing and running a liner, they cement a combination liner and casing string made of "Securaloy." As illustrated (fig. 1), this string is cemented in place through ports in the casing at the top of the producing zone, using a basket below the ports, if desired.

By using a Security Left Hand Releasing Tool the operation is made extremely simple and positive, for this tool not only assures positive release but has a built-in packing device and tail pipe connection that facilitates the cementing operation. At excessive depths equalizing ports should be provided in the blank section of the string and a swab cup placed on the tail pipe to prevent by-passing of the cement through these ports during the cementing operation.

After the combination string is set the well is placed on production. If the sand proves productive, it can be produced as long as desired through the "Securaloy" Combination String.

But if the zone proves non-productive—or not sufficiently productive to warrant further development at the present—the entire combination can be quickly drilled up (fig. 2), circulated out of the hole, and the well completely cleared for further drilling operations!

MONEY-SAVING ADVANTAGES

Notice the important savings which this method makes possible. In the first place, a full string of casing is saved each time a production test is made. That alone is an important economy.

But consider also that if the zone is non-productive the combination casing-liner string can be completely removed and the drilling carried on *without reducing hole size.*

And there is this additional feature—since the liner is part of the casing string, maximum size pipe can be used in the producing zone, assuring full *unchoked* production flow from the test sand—a vitally important point regardless of whether the zone is being fully produced or merely tested!

Full particulars on this or any other "Securaloy" application will gladly be sent upon request.

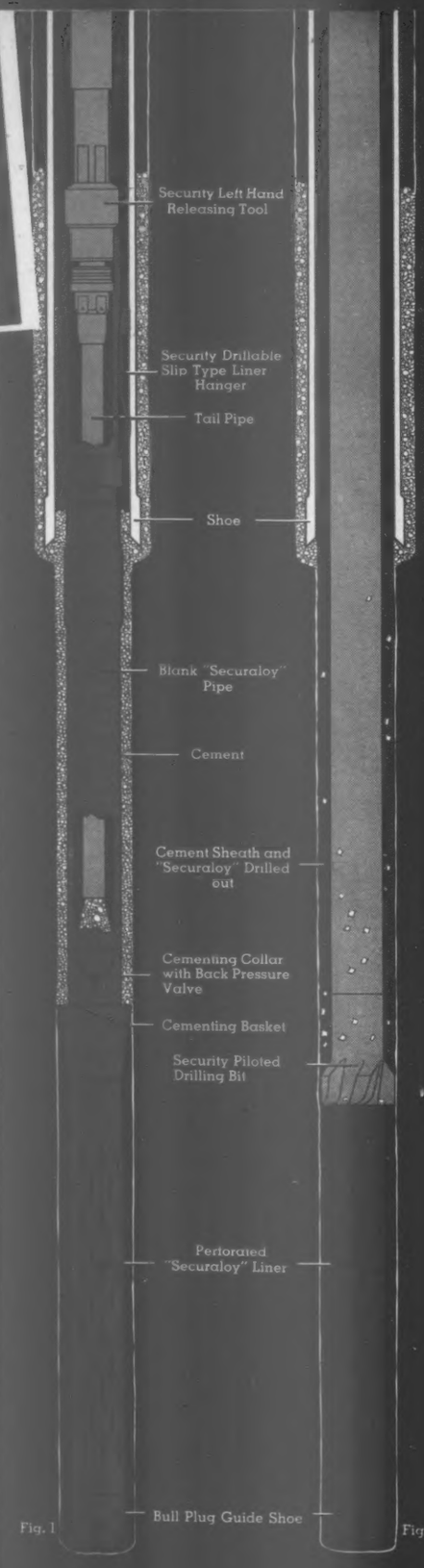

Fig. 1 Fig. 2

THE SECURITY *DRILLABLE* SLIP TYPE LINER HANGER

This liner hanger is similar to conventional slip type liner hangers except, being made of "Securaloy," it can be completely drilled up and circulated out of the hole whenever desired. It is ideal for supporting the combination liner-casing string described at left as well as for ordinary liner work where "Securaloy" equipment is used. It is available in all standard sizes, either with or without lead seal ring.

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THE FIRST OF A SERIES OF "HARD TO BELIEVE" BUT TRUE FACTS CONCERNING MANY INTERESTING THINGS, INCLUDING THE BAKER LINE OF "PRACTICAL & DEPENDABLE" OIL TOOLS

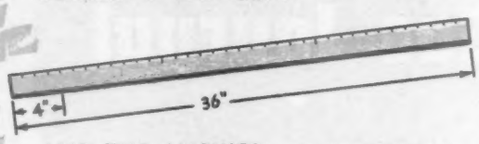
IS IT POSSIBLE?

THAT SOME HARMLESS LAND CRABS ONCE CAUSED AN ARMY TO FLEE IN TERROR?

AND THE ANSWER:

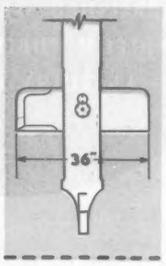
In 1635 Admiral Penn landed with his forces on the island of Haiti to establish a colony. Surprise attacks by natives had set the nerves of the expedition on edge. One night the camp was awakened by the clattering on the beach of what seemed like hoofbeats of charging cavalry (but what was in reality the noise made on the hard sands of the beach by a large number of mammoth land crabs). The expedition fled in terror, leaving behind an amazed populace, and the legend of the bloodless "Battle of Crabs."

THAT THERE IS AN OIL TOOL THAT WILL ENLARGE THE DIAMETER OF AN OPEN HOLE FROM 4" TO 36"?



AND THE ANSWER:

The Baker Rotary Wall Scraper has been so designed as to provide tremendous strength with minimum over-all dimensions and an amazing reaming capacity. It has a reaming range of from 4" to 36", using only six Wall Scraper Bodies. For complete details, send for Baker Broadcast No. 19.



THAT GAS/OIL RATIO IN AN OIL WELL HAS BEEN REDUCED BY MECHANICAL MEANS FROM 26,300:1 TO 366:1?

AND THE ANSWER:

Some remarkable records have been established in reducing gas/oil ratios as the result of cement squeeze jobs done with the Baker Cement Retainer. In a typical instance, a well was brought in making 105 bbls. of 29° oil with a gas/oil ratio of 26,300:1. A cement squeeze job was done with the Baker Cement Retainer, and the well came in with production of 612 bbls. of oil with a gas/oil ratio of 366:1.

Full details are given in Baker Broadcast No. 17-A—send for it.

THAT THERE IS A COUNTRY IN THE WORLD WHERE IT IS MANDATORY THAT A CRIMINAL ADVERTISE HIS CRIME?

AND THE ANSWER:

In a certain South American tribe of Indians, if a member commits homicide, he must leave his calling card beside the body of the deceased. This calling card is in the form of an animal bone, half of which is placed beside the victim, and the other half must be worn around the neck of the perpetrator of the crime. When the victim is found, the eldest brother of the deceased must search for the tribesman that has the matching half of this bone around his neck, and vindicate the stain upon the family honor.

THAT ONE OF THE MOST DECISIVE NAVAL BATTLES OF THE WORLD WAR TOOK PLACE IN THE HEART OF AFRICA?

AND THE ANSWER:

Yes, it actually happened. In 1915 Belgian military operations on Lake Tanganyaka, Central Africa, were being seriously hampered by a German "flotilla" consisting of four gunboats. The British Admiralty organized the African Naval Expedition consisting of 28 picked men and two 40-foot motor boats, each mounted with a three-pounder forward.

After months of strenuous travel, through jungles and mountain territory—always dragging, pushing, guarding their precious "navy," the Expedition finally reached their destination.

The rest of the story is written in the history of British naval victories. One by one the German gunboats were encountered and sunk. Thus ended the smallest expedition sent against the enemy during the World War, one of the most decisive, and one of the most courageous.

THAT THERE IS A SHOE USED IN LANDING AND CEMENTING OIL WELL CASING THAT WILL: EFFICIENTLY GUIDE; SAFELY FLOAT; ASSIST IN WASHING OUT BRIDGES ENCOUNTERED; SCOUR WALLS OF THE HOLE; PROVIDE ULTIMATE IN CEMENTING EFFICIENCY; AFFORD POSITIVE BACK-PRESSURE VALVE; THAT IS COMPLETELY DRILLABLE, AND LEAVES THE HOLE IN PROPER CONDITION?

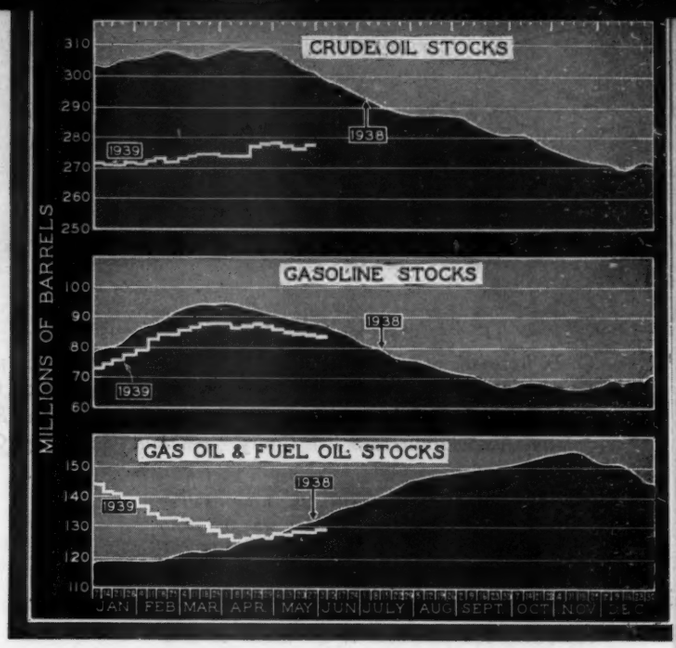
AND THE ANSWER:

The Baker Cement Wash-Down Whirler Float Shoe will do all of these things safely, efficiently and economically. For complete details see page 229 of your 1939 Composite Catalog, or send for individual Baker Catalog.

BAKER OIL TOOLS, INC., P.O. Box 71, HUNTINGTON PARK, CALIFORNIA

Trends

Substantial Decrease in Crude Production Will Start This Week



THE decline in production in Texas resulting from the action recently taken by the state Railroad Commission to observe Saturday as well as Sunday production holidays, will occur this week. It may make a difference of 87,000 bbl. a day in the average daily production of the state compared with the net allowable in May, but it may be greater than that. The figure, at best, is an estimate.

CRUDE PRODUCTION *3,570,921 bbl. daily average—down 16,619 bbl. One year ago 3,106,875 bbl.*

CRUDE STOCKS *278,289,000 bbl. as of May 27—up 1,221,000 bbl. One year ago 301,583,000 bbl.*

GASOLINE STOCKS *83,637,000 bbl. as of June 3—down 515,000 bbl. One year ago 87,385,000 bbl.*

GAS AND FUEL OIL STOCKS *129,686,000 bbl. as of June 3—up 852,000 bbl. One year ago 133,923,000 bbl.*

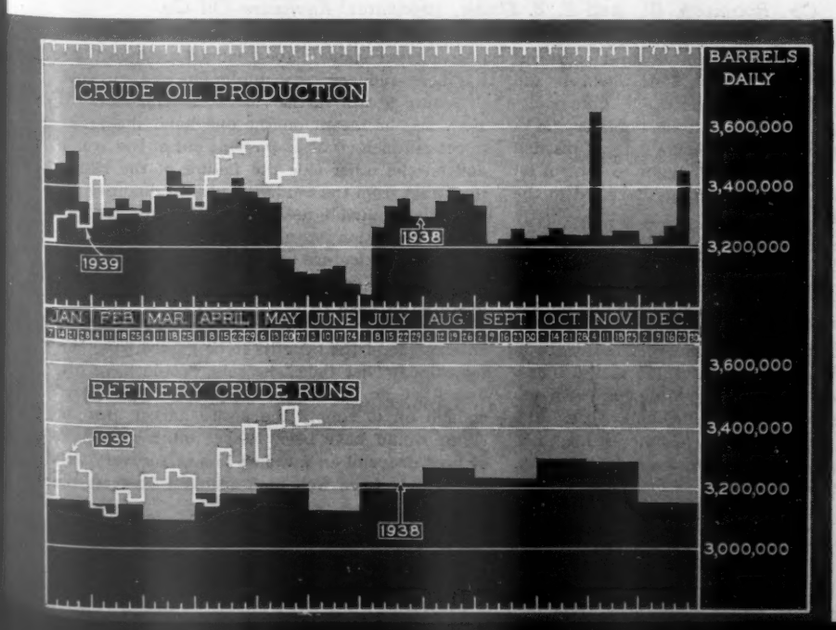
REFINERY RUNS *3,415,000 bbl. daily week ending June 3—up 10,000 bbl. One year ago 3,129,000 bbl.*

The effect of the lowered production on general conditions in the market for oil and its products is good. If production in Illinois does not increase materially during the month the general situation will be that much better.

In Illinois last week production of the basin fields fell off 2,500 bbl. a day, which may indicate that buyers were clamping down on over-ambitious producers. The decline came in a week when 76 new oil wells were completed, a new record for the state this year. In the ordinary course of things production in Illinois should have increased, which strengthens the belief that the saturation point in crude demand had been reached, and that additional oil was turned back to producers.

California production also declined last week. The new system of proration put into effect by the Central Committee of California Oil Producers on June 1, but which will take 10 days to reach a maximum of efficiency, is expected to be much more effective than the less scientific methods tried by the committee in the past. Through this plan the effort to bring crude output down to at least 600,000 bbl. a day may become effective. The larger wells will bear the greater part of the curtailment, distributed on a basis of well potential. A minimum production of 10 bbl. a day is provided to take care of smaller wells.

An 11,000-bbl. well in the Hittle pool in Kansas; a 5,000-bbl. well in the Coyle pool, Payne County, Oklahoma; a 5,400-bbl. well in the Salem pool in Illinois, and prospects of three new pools in the last named state, were among the outstanding features of the week in the producing division.



DAILY AVERAGE PRODUCTION FOR WEEK

	June 3, 1939	Bur. Mines June est. of demand	June state allowables	May 27, 1939
Oklahoma City	100,575			99,650
Fitts	26,725			26,700
Remainder of state	317,875			323,375
Total Oklahoma	445,175	450,300	428,000	449,725
East Texas	447,000			446,247
West Texas	234,899			234,148
North Central Texas	115,198			118,200
Texas Panhandle	75,096			70,000
East Central Texas	97,947			97,547
Gulf Coast Texas	379,698			379,550
Southwest Texas	115,450			116,297
Total Texas	1,465,288	1,427,300	1,313,022	1,461,989
North Louisiana	73,590			72,360
Gulf Coast Louisiana	191,900			195,100
Total Louisiana	265,490	265,000	263,023	267,960
California	608,250	594,600	575,000	614,300
Kansas	156,775	152,400	165,880	161,750
Arkansas	56,365	54,700	57,641	55,100
Eastern fields	98,500	106,400		98,750
Illinois	216,375	174,300		218,128
Michigan	64,133	53,400		63,848
New Mexico	116,760	117,000	113,000	116,850
Rocky Mountain area	77,810	95,600		78,940
Total United States	3,570,921	3,491,000		3,587,540

Market sentiment was brightened by the announcement of Standard of Indiana that raising of subnormal tank-wagon gasoline prices, already effective in Illinois, Indiana, and Wisconsin, would be extended this week to six other states in which it is the key marketing organization. Deranged tank-wagon and retail prices have been one of the chief causes of unprofitable refinery operations. Motor fuel prices generally are firmer, and with tourist business now getting under way, increased confidence is felt over the summer prospect. Substantial withdrawals from gasoline stocks continue, but their favorable effect is neutralized in part by accelerated runs to stills. A sharp rise in shipments of lubricating oils was reported this week.

O. D. Donnell, president, Ohio Oil Co.; J. Edgar Pew, vice president, Sun Oil Co.; William Bell, Illinois representative on Interstate Oil Compact Commission and director Illinois-Indiana Petroleum Association, and J. J. Conry, president, Carter Oil Co.

Conference Analyzes

By HARRY F. SIMONS

ROBINSON, Ill., June 3.—The economic situation in Illinois today was the main topic of interest to more than 600 oil men attending the seventh annual meeting of the Illinois-Indiana Petroleum Association at Robinson today. In addition to independent operators and local executives and personnel of the major oil companies, the one-day session was attended by several major oil company heads and interested oil men from Kansas, Oklahoma, West Virginia, and Pennsylvania.

Approximately 500 of those registered attended the morning and afternoon meetings held in the Robinson High School gymnasium to hear papers discussing the recent geological developments in Illinois and Indiana, the economic situation of the old eastern Illinois fields at the present time and the recent technological advances in the search for and production of oil as applied to Illinois.

J. Edgar Pew, vice president, Sun Oil Co., speaking at the banquet pointed to the "chiselers" in the oil business as being the main opponents of state regulation and advocated the establishment of conservation based on engineering principles if the new Illinois oil boom is to bring lasting prosperity to the state. He said:

"We Americans are accused of having been reckless of the bounties that nature showered upon us; and, until very recent years, we have been in no position to enter a very effective denial. Of late, however, the notion that nature's storehouse is not inexhaustible has been finding acceptance among us; and so we observe an increasing interest in programs that look to conservation of natural resources.

"Conservation, as I visualize it, means to use our natural resources as we need them; producing them and utilizing them without waste and always with the interest of the public in mind, as well as that of the industry involved."

Mr. Pew went on to point out that no one knows how long it will take to exhaust the supplies of petroleum from which our oil industry gets its products and explained the present position of the industry in relation to the proven reserve, adding that the present proven reserve of 17,000,000,000 bbl. is enough to satisfy requirements of 15 to 17 years at the present rate of use. Factors affecting the rate of withdrawal, according to Mr. Pew, are new uses for petroleum products, new sources of power from inventions yet to be brought out; greater economy in refining and in use; increase or decrease of foreign supplies and foreign demands; and numerous other considerations about which it would be useless to speculate.

Mr. Pew next outlined the position of the oil business in promoting the happiness and prosperity of the United States, as well as the benefits obtained from the industry's huge tax bill and how all this has been possible through advances in the methods of finding and producing oil.

"These advances," Mr. Pew said, "have sadly confused those alarmists who, knowing least about the oil industry, have been most confident that something ought to be done about it and that they were the people to do it. Commonly, on the ground that it might be necessary as a measure of national defense, they have insisted that the federal Government ought to control oil production. My own observations have led to the conclusion that all this worry has arisen chiefly from a desire to centralize more power in Washington. Certainly it has not reflected any superior knowledge in the people who are doing the worrying about it, or their superior ability to run the industry."

A quartet of officers of the Illinois-Indiana Petroleum Association: C. C. Carroll, (vice president) manager Illinois division, Ohio Oil Co.; R. W. McIlvain, Jr., (secretary) Pure Oil Co., Olney, Ill.; Alex U. McCandless, (president) Mahutska Oil Co., Robinson, Ill., and T. B. Steele, (treasurer) Kewanee Oil Co.

Mr. Pew pointed out that much of the waste in the production of oil has been due to the industry in its foundling days searching for the methods of proper operation. "But today," he said, "experience, experiment, scientific study, mechanical inventions and technologic development, together with the excellent conservation laws in many of our states, have changed all this. Waste has been reduced to a minimum, and measures to reduce it still further are still being devised." By waste he meant on the one hand the failure to get as much crude as possible out of the ground and on the other side the failure of the refiner to extract from the crude the utmost quantity and quality of valuable derivatives. He indicated that the conservation laws of Oklahoma, Louisiana, and New Mexico are enabling the oil industry to draw nearer constantly to recovering the full potential of each field.

The speaker then cited the East Texas field as an example of the benefits to be gained from conservation. "That field," he said, "could have produced, at any time in the past 8 or 9 years, enough oil to supply the entire nation. But the result would have been 10-cent oil, a rapid loss of pressure, and an ultimate loss of recovery that would have been well nigh criminal. Instead, the

at Robinson, Ill.

State's Position

cooperation of state and federal authorities and the industry in regulating flows and the maintaining of pressure will almost certainly double the field's ultimate yield, and at the same time lessen the cost of crude to the producer and of its products to the consumer."

Mr. Pew admitted conditions in East Texas were not ideal and added: "Too many wells were drilled; there were too many chiselers in the business, most of them new to the oil business and many of them just opportunists in the industry. Few of these chiselers have ever contributed anything to the building of the industry. Some of them are here in Illinois right now, urging you to adopt an unsound policy that will waste your oil resources and that will make your production only a temporary and fleeting matter."

After pointing to the rapid development and decline of the old Illinois producing areas as leaving no permanent producing industry, the speaker continued: "If you allow the chislers now to have their way you will pretty certainly have a repetition of that experience. These chiselers want to maintain conditions in which they will be able to take out many times the amount of oil their properties contain. They stand for the old 'law of capture,' which has long been rejected in all sound oil economics.

"They care nothing for the stabilization of the industry; they care nothing for the thousands of small operators who must have stabilization if they are to continue to operate their properties; they care nothing for the economic losses in production recovery and they have no regard for the long-time prosperity of your producing areas and of the community dependent on this prosperity; their method is to mislead and exploit for their own benefit only. The only chance the chiselers would have is to get away in a hurry with just as much as possible of their own and their neighbors' oil, while avoiding utter demoralization of the market."

Mr. Pew analyzed the benefits of stabilization of production, saying that "overproduction—wasteful production—inevitably means the demoralization of the crude market" and that at the present time "there are sufficient oil reserves now actually developed in the country to supply our markets—for a limited time—even with oil at 10 cents. But the supplies would come from the flush fields; the older production would be shut down and much of it lost. The flush fields would soon be exhausted also. The producer, the royalty owner and the consuming public would all share the losses."

"For me," Mr. Pew said, "there is just one sound rule: I believe if all crude were at all times produced under the best engineering practices, we would have no overproduction, we would do equity as between all producers, and we would have stable and satisfactory markets. I believe, further, that we can trust our state authorities to enforce laws and regulations that will give us these results."

If the oil industry is to avoid government control and the states federal interference in local affairs, it must operate to avoid waste under effective state conservation laws, Mr. Pew warned.

Price Comparison

The last speaker on the afternoon program, Millard Flood of Ohio Oil Co. at Robinson, described the "Present Status of the Southeastern Illinois Oil Fields." Due to the low prices and curtailed production, operators of the 13,709 producing oil wells in Illinois and 1,081 wells in Indiana are confronted with the problem of minimizing losses and not of maintaining profits, and some leases may have to be abandoned, according to the speaker.

He explained that a recent survey by the Illinois-Indiana Producers Association, based on 87 per cent of the total production in the area, showed a profit of $0.0089 per barrel when the crude price was $1.15 per barrel and a loss of $0.089 when the price was $1.05 per barrel. At 95 cents per barrel for the crude oil the loss amounts to 19 cents on each barrel of oil produced. Proration of the area over an extended time is bound to result in water encroachment in many of the wells, Mr. Flood contended.

The application of secondary recovery methods would result in prolonging the life of these fields and would also result in the recovery of 1,500 to 2,500 bbl. per acre of the 9,000 to 12,000 bbl. of oil per acre remaining in the sands as indicated by core analysis, according to Mr. Flood. Consideration must be given to the additional investment involved in such development, he added.

After outlining the position of stripper areas in their relation to the national reserve, Mr. Flood pointed out that many stripper areas, including the old Illinois and Indiana fields, cannot survive unless they are allowed to produce unrestricted as a matter of sound conservation. Quoting Dr. W. H. Voskuil of the Illinois State Geological Survey, Mr. Flood said: "The hope of greater ultimate recovery in the stripper well districts lies in increasing the flow by improved secondary recovery methods. But there can be no incentive for investment in improved recovery methods unless two conditions are met: (1) Investment in these methods must reduce the per barrel lifting cost, or conversely, must yield an additional quantity of oil which is greater in value than these added investment costs; (2) the benefits of increased recovery must not be nullified by artificially imposed restrictions."

The first speaker of the morning session, M. M. Leighton, chief of the Illinois State Geological Survey, traced the rise of the present development in the basin area. He said 35 per cent of the runs to stills in the central refining district is Illinois basin oil. He then compared Illinois production in relation to the national total with the produc-

(Continued on Page 27)

Above: Ed S. Shakely, chief exploitation engineer, eastern producing area, and F. W. Oudt, geophysicist, Shell Oil Co., Centralia, Ill.; Millard Flood, petroleum engineer, Ohio Oil Co., Robinson, Ill. Right: Thomas Dawson and J. R. Harris, geologists, Indiana Department of Conservation: L. E. Wackman and L. L. Leighton, Illinois Geological Survey; Ralph Esarey, geologist, Indiana Department of Conservation, and A. H. Bell, Illinois Geological Survey

SPARKS FROM THE NEWS

NOT SO SURE

Some of the business men attending that White House appeasement conference seem to have heard of what followed Munich.

REAL NEED

Extension of the interstate oil compact for 2 years is all right, but what is really needed is expansion of it to take in all oil-producing states.

ASSISTANCE

June state allowables within the Bureau of Mines recommendations may relieve refiners who think they have to run more oil because more oil is available.

FORTY YEARS LATER

A Prue sand pool has been found in northeastern Osage County, about 15 miles from one of Oklahoma's first oil wells at Bartlesville, completed more than 40 years ago.

CONTRAST

A recent survey of motor fuels sold throughout the Middle West shows that better quality is being offered motorists than at any time in the history of the oil business but the industry is receiving less than the average price for them.

KANSAS HIGHWAY SIGN

PASS THE BLACK INK

An eighth-cent raise in gasoline tankcar prices now enables most Mid-Continent refiners to break even.

NEW RECORD?

Oklahoma's deepest drilling well, in Washita County, is below 12,400 ft. and seems headed for a new deep record.

CAPITAL PER JOB

Socony-Vacuum reports to its employes that its total capital represents $12,479 for each of the 56,429 jobs provided by the company, domestic and foreign.

WHAT'S THE LIMIT?

A 6,000-bbl. well in the Salem, Illinois, field producing from McCloaky lime establishes a new Illinois basin record, but how long will the record stand?

NOT DISCOURAGED

The first Missouri completion in the current Forest City basin play was dry in Arbuckle lime, but operators were not discouraged, several new deep tests getting under way in the basin.

MORE CHEER

Standard of Indiana raises subnormal tank-wagon gasoline prices in six more states where it is the key marketing organization, helping to remove one of the principal impediments to profitable refinery operations.

EXPANDING HORIZON

The productive horizon of Kansas fields was extended into the far northwestern part of the state with the recent discovery of gas near Goodland in Sherman County, 18 miles from Colorado and 47 miles from Nebraska.

BIGGER CONSUMER

An airplane is now on the drafting boards of a large manufacturer which, when completed, will be powered by six 2,500-hp. motors. The gasoline consumption of this plane will far surpass the fuel oil consumption of the largest steam locomotive, mile for mile.

Higher Octane Ratings Shown As 1939 Trend

By W. T. ZIEGENHAIN

Better quality gasolines are now available at filling stations than at any time in the past. This conclusion is drawn from data contained in the thirteenth annual survey of motor fuel quality made by The Oil and Gas Journal. Most noticeable is the improvement in the octane value of the third grade which average advanced from 52 to 62 in the short period of one year.

While these conclusions are based upon a limited number of samples collected from among representative refining companies operating stations throughout the middle western states, extreme care was again taken to make the data comparable year after year and to offer a good basis for judging gasoline quality throughout the United States. Stated more specifically 36 samples of gasoline are purchased each year from the same 12 companies. These samples are purchased from the pump at company-owned stations and then tightly sealed and tested in the same refinery laboratory. One sample each was taken of the regular, premium and third-grade gasolines from each of the 12 company-owned stations to complete the series of 36.

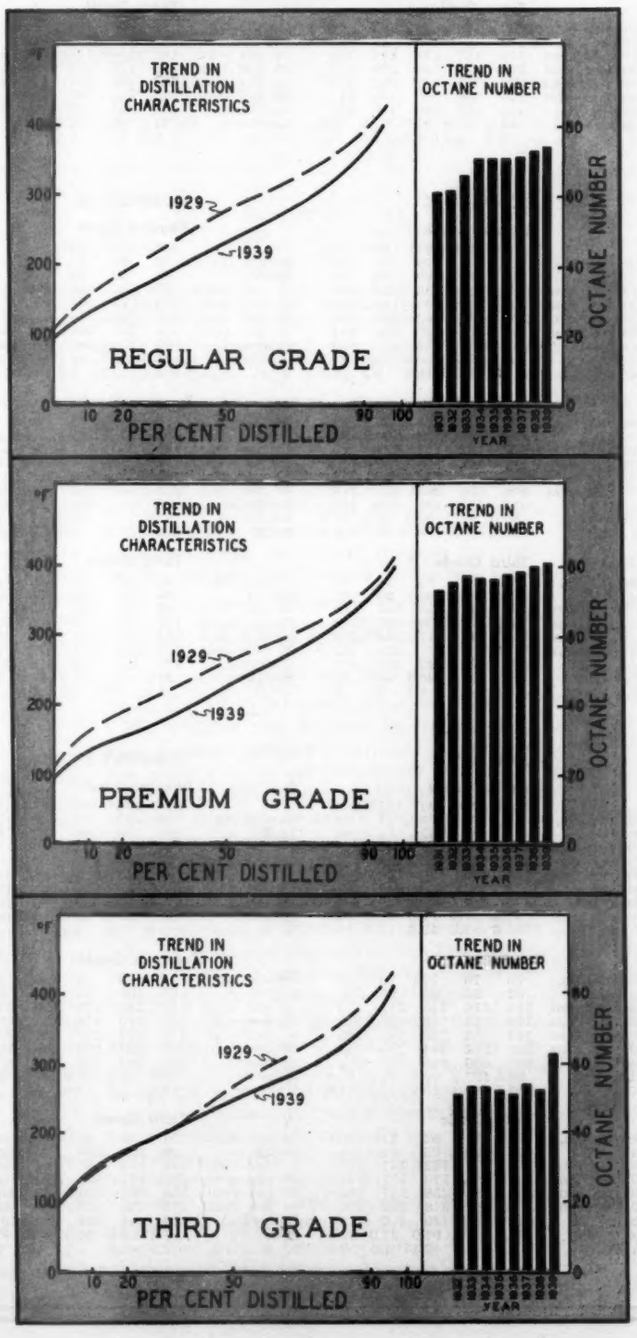
Standard methods of testing were used throughout, and although the procedures of these tests have been modified from time to time the changes have not been sufficient to render the data uncomparable. The principal objective of these comparisons, however, is to provide the reader with information as to trends.

In the table which appears on the opposite side of this page the detailed tests are shown for each of the past 5 years and opposite this is a table which summarizes similar data extending over a period of 10 years. The latter provides the basis for the three sets of graphs appearing here in color.

It should be explained that in each of the years 1929 and 1930 all samples of gasoline tested were purchased from company-owned stations in Tulsa, and then, starting in 1931 the samples were collected from substantially the same companies but from stations located in Cleveland, Chicago, Kansas City, Fort Worth, and Tulsa. The company-owned stations from which these samples have been collected since 1931 include the Standard Oil Co. of Ohio, Skelly Oil Co., Cities Service Oil Co., Continental Oil Co., Barnsdall Refining Co., Mid-Continent Petroleum Corp., Phillips Petroleum Co., Magnolia Petroleum Co., Gulf Oil Corp., Texas Co., and the Standard Oil Co. (Indiana). Averages compiled from tests on gasolines made by these companies are likely to be representative of the quality of gasoline throughout the United States.

Seasonal Variations

All of the above companies observe changes in the specifications on their gasolines to equalize seasonal variations in average weather conditions. Therefore, to make the survey most comparable year after year, the practice has been observed of collecting all samples within a period of one week and to do this in the early spring. This year the samples were collected later in the year than in previous years because it was desired to reflect the material changes in the quality of third-grade gasoline which were announced by a few companies in the first quarter of the year.



Octane Values

As stated previously, the most noticeable change in the 1939 survey is the greatly increased average octane value of the third-grade gasoline. This year the average for the 12 samples tested 62 and one year ago it was 52. The increase of 10 numbers reflects a change in one major company's policy announced early in the spring which was followed by the great majority of middle western marketers shortly thereafter. However, all 12 have not made such a change at this writing and within the area under observation third-grade gasolines are being supplied having octane ratings which range from 52 to 69.

Taking into the account other improvements in the average quality of the third-grade gasolines. the general conclusion can be drawn that the average third-grade gasoline is about as good as the regular grade in 1932.

While the most noticeable improvement is in the third grade, the advance of the average octane value of the regular grade from 73 one year ago to 74 this year is significant. This advance is further proof that the "octane race" continues. It further indicates that refiners are pursuing a program of keeping the octane value of their regular grades well ahead of the octane value of their third-grade fuels.

On the basis of the averages reported here, the octane value of the regular or house brand is 11 numbers higher than the third grade. This is considered decidedly more than is necessary to cause laymen to notice a difference in fuel quality when driving a majority of cars over a normal route of changing road conditions.

The advance of the average octane values shown for the premium fuels from 79 one year ago to 80 this year is also significant. This increase retains the same differential in octane values between the regular and premium grades as existed a year ago.

In view of the fact the octane value of the regular and premium grades went up only one number while the third grade went up 10 numbers, two opposing types of reasoning in regard to the future trend of octane values are being advanced. The one school of thought champions the idea that the third grade will be gradually improved to closely approach the quality of the regular grade. Eventually, they contend, the third grade will be discontinued. Under such a system, only two grades would be available, the house brand and the premium grade. The other school of thought reasons that the maintenance of three grades of gasoline will continue indefinitely. They argue that the marketing of third-grade gasoline allows the individual companies to meet ad-

Tests on Gasoline Sold by Same Twelve Refining Companies for Past Five Years

COMPANY A

Regular Grade

	1935	1936	1937	1938	1939
Octane No..	70	70	70	72	73
Initial	91	89	86	86	85
10 per cent	115	128	118	110	112
20 per cent	135	157	142	128	128
50 per cent	216	231	224	208	200
90 per cent	355	351	358	360	353
Endpoint ..	417	405	405	400	396
Recovery ..	96.0	96.0	96.0	96.0	95.5
V. P.	11.2	10.4	10.5	11.6	12.7

Premium Grade

Octane No..	76	76	79	79	80
Initial	88	100	100	89	86
10 per cent	124	120	133	123	120
20 per cent	148	141	145	142	141
50 per cent	230	221	182	202	233
90 per cent	356	317	288	337	364
Endpoint ..	402	364	359	380	396
Recovery ..	97.0	97.0	96.5	97.0	96.5
V. P.	12.3	10.7	8.9	10.3	9.4

Third Grade

Octane No..	50	49	52	51	65
Initial	104	104	96	104	95
10 per cent	162	166	140	147	140
20 per cent	194	194	170	177	169
50 per cent	270	256	252	254	245
90 per cent	380	354	376	373	369
Endpoint ..	426	396	419	420	406
Recovery ..	98.0	97.0	97.0	97.5	96.0
V. P.	6.6	6.9	7.2	8.0	7.5

COMPANY D

Regular Grade

	1935	1936	1937	1938	1939
Octane No..	68	69	68	71	72
Initial	90	91	93	87	87
10 per cent	126	135	133	122	122
20 per cent	152	160	159	145	150
50 per cent	236	242	245	230	232
90 per cent	364	370	372	365	357
Endpoint ..	404	408	410	414	412
Recovery ..	97.0	96.0	96.0	97.0	97.0
V. P.	10.8	10.4	8.5	11.1	10.0

Premium Grade

Octane No..	74	76	70	78	79
Initial	96	92	102	90	89
10 per cent	148	127	140	134	137
20 per cent	164	148	165	162	150
50 per cent	240	227	252	241	224
90 per cent	357	357	366	356	370
Endpoint ..	404	406	411	420	414
Recovery ..	98.0	97.0	97.0	97.0	97.0
V. P.	9.1	9.1	6.0	8.8	8.9

Third Grade

Octane No..	48	49	50	52	54
Initial	112	94	105	88	94
10 per cent	173	146	158	143	133
20 per cent	198	178	184	179	157
50 per cent	272	253	247	253	253
90 per cent	378	369	380	365	347
Endpoint ..	426	409	420	416	402
Recovery ..	98.0	97.0	97.5	97.0	97.0
V. P.	5.2	7.6	5.7	7.0	9.3

COMPANY G

Regular Grade

	1935	1936	1937	1938	1939
Octane No..	69	69	70	73	73
Initial	87	85	89	90	84
10 per cent	127	117	117	127	119
20 per cent	158	141	138	154	141
50 per cent	241	237	222	236	222
90 per cent	359	358	349	348	356
Endpoint ..	394	395	391	397	396
Recovery ..	96.0	96.0	96.0	97.0	96.5
V. P.	10.7	11.8	12.0	8.8	10.7

Premium Grade

Octane No..	75	76	73	79	80
Initial	89	89	90	86	94
10 per cent	130	128	120	118	126
20 per cent	161	156	143	143	147
50 per cent	243	230	226	230	210
90 per cent	364	336	345	355	306
Endpoint ..	392	394	386	398	354
Recovery ..	95.0	96.0	96.0	97.0	96.0
V. P.	9.7	11.5	11.3	11.8	10.9

Third Grade

Octane No..	52	59	51	48	67
Initial	92	90	102	99	90
10 per cent	143	144	165	160	133
20 per cent	182	172	195	193	159
50 per cent	267	250	262	254	242
90 per cent	375	363	347	352	356
Endpoint ..	408	392	409	400	396
Recovery ..	97.0	95.0	97.0	97.5	96.5
V. P.	8.5	11.7	5.1	5.3	9.0

COMPANY I

Regular Grade

	1935	1936	1937	1938	1939
Octane No..	69	69	69	72	73
Initial	95	87	89	86	93
10 per cent	129	129	126	122	133
20 per cent	162	160	143	150	161
50 per cent	246	247	224	236	243
90 per cent	354	354	344	354	354
Endpoint ..	387	387	385	397	382
Recovery ..	96.5	96.0	97.0	97.0	95.0
V. P.	10.2	11.1	9.0	11.0	10.9

Premium Grade

Octane No..	74	72	75	78	80
Initial	91	93	93	88	90
10 per cent	130	143	130	121	127
20 per cent	162	180	163	150	151
50 per cent	246	260	246	228	231
90 per cent	360	376	348	344	350
Endpoint ..	387	411	384	390	382
Recovery ..	95.0	96.0	97.5	96.5	95.0
V. P.	11.0	8.5	8.2	9.4	11.1

Third Grade

Octane No..	55	..	64	55	68
Initial	97	..	89	96	97
10 per cent	148	..	126	142	144
20 per cent	186	..	159	172	180
50 per cent	267	..	242	239	244
90 per cent	380	..	356	355	383
Endpoint ..	420	..	388	405	430
Recovery ..	97.0	..	96.0	97.0	96.5
V. P.	7.8	..	8.5	7.8	8.5

COMPANY B

Regular Grade

	1935	1936	1937	1938	1939
Octane No..	70	70	70	73	72
Initial	87	86	90	88	93
10 per cent	121	120	120	122	133
20 per cent	143	146	148	148	156
50 per cent	225	230	230	225	230
90 per cent	357	363	360	352	346
Endpoint ..	398	484	405	402	384
Recovery ..	96.5	96.0	97.0	96.0	95.5
V. P.	10.5	11.3	9.2	10.7	10.4

Premium Grade

Octane No..	76	77	76	78	80
Initial	91	86	86	93	84
10 per cent	119	124	120	121	127
20 per cent	141	148	143	144	150
50 per cent	208	230	218	217	221
90 per cent	327	350	335	342	343
Endpoint ..	378	386	382	393	381
Recovery ..	97.0	96.0	97.0	97.0	95.0
V. P.	9.8	12.4	10.0	12.0	10.1

Third Grade

Octane No..	52	56	54	52	67
Initial	92	94	92	103	93
10 per cent	138	148	141	147	142
20 per cent	167	182	181	178	168
50 per cent	243	258	260	259	240
90 per cent	363	377	365	377	346
Endpoint ..	421	420	410	417	394
Recovery ..	96.5	95.0	97.0	97.0	96.5
V. P.	9.2	10.8	8.0	7.8	7.7

COMPANY E

Regular Grade

	1935	1936	1937	1938	1939
Octane No..	69	70	70	72	75
Initial	88	88	89	88	86
10 per cent	137	129	135	130	131
20 per cent	171	159	166	159	155
50 per cent	251	246	243	245	229
90 per cent	363	368	370	366	354
Endpoint ..	424	415	420	418	410
Recovery ..	96.5	95.5	96.0	96.0	96.5
V. P.	9.7	10.8	10.0	9.2	9.2

Premium Grade

Octane No..	74	77	76	79	79
Initial	92	83	92	90	96
10 per cent	138	132	128	129	140
20 per cent	169	162	158	157	160
50 per cent	254	242	239	238	218
90 per cent	370	356	366	357	348
Endpoint ..	418	417	421	409	410
Recovery ..	97.0	97.5	95.5	96.0	97.0
V. P.	9.0	9.6	9.6	10.7	8.4

Third Grade

Octane No..	54	52	55	50	61
Initial	92	95	93	99	89
10 per cent	137	140	133	101	140
20 per cent	169	173	165	193	172
50 per cent	261	249	247	252	243
90 per cent	377	375	377	354	362
Endpoint ..	425	429	435	415	410
Recovery ..	96.5	96.0	96.5	98.0	96.5
V. P.	9.3	8.9	8.4	6.5	8.7

COMPANY H

Regular Grade

	1935	1936	1937	1938	1939
Octane No..	70	69	70	72	74
Initial	93	90	90	98	94
10 per cent	135	136	135	140	148
20 per cent	164	170	166	172	180
50 per cent	248	259	248	254	254
90 per cent	354	365	358	359	354
Endpoint ..	399	396	391	396	388
Recovery ..	96.5	96.5	96.1	97.0	97.0
V. P.	8.2	9.5	8.9	8.8	8.0

Premium Grade

Octane No..	72	..	75	79	79
Initial	104	..	97	94	84
10 per cent	150	..	131	134	130
20 per cent	173	..	160	156	150
50 per cent	246	..	225	223	223
90 per cent	354	..	346	336	366
Endpoint ..	408	..	400	387	412
Recovery ..	97.5	..	97.0	97.0	97.0
V. P.	6.5	..	7.6	10.4	8.8

Third Grade

Octane No..	46	46	56	50	55
Initial	92	100	102	103	97
10 per cent	142	150	158	145	141
20 per cent	183	179	187	176	170
50 per cent	283	267	245	257	252
90 per cent	392	382	343	377	344
Endpoint ..	427	427	380	412	383
Recovery ..	96.5	98.0	97.0	97.0	97.0
V. P	8.2	7.9	5.3	7.6	8.9

COMPANY K

Regular Grade

	1935	1936	1937	1938	1939
Octane No..	68	69	69	73	73
Initial	87	85	85	88	87
10 per cent	118	116	111	112	115
20 per cent	146	139	129	132	132
50 per cent	237	221	210	206	211
90 per cent	357	349	345	329	346
Endpoint ..	394	394	406	385	394
Recovery ..	95.5	96.0	96.5	96.0	96
V. P.	12.4	12.6	10.7	13.0	12.1

Premium Grade

Octane No..	76	77	76	79	80
Initial	89	87	84	85	96
10 per cent	124	124	109	113	121
20 per cent	154	149	129	132	140
50 per cent	225	204	202	208	206
90 per cent	328	307	327	325	334
Endpoint ..	375	366	382	388	388
Recovery ..	96.0	96.0	96.0	96.0	95.5
V. P.	10.2	11.1	11.3	10.6	10.5

Third Grade

Octane No..	60	57	62	56	69
Initial	91	100	90	99	99
10 per cent	142	152	135	145	144
20 per cent	175	184	165	173	176
50 per cent	245	250	235	250	246
90 per cent	359	362	345	373	358
Endpoint ..	413	421	404	415	412
Recovery ..	96.5	97.0	97.0	97.5	96.5
V. P.	8.6	8.7	7.2	8.0	7.9

COMPANY C

Regular Grade

	1935	1936	1937	1938	1939
Octane No..	70	68	70	72.5	73
Initial	94	92	95	88	86
10 per cent	131	137	124	122	124
20 per cent	155	147	148	148	151
50 per cent	233	247	236	236	234
90 per cent	365	365	361	359	362
Endpoint ..	407	424	402	404	405
Recovery ..	97.0	96.5	96.0	96.0	96.0
V. P.	9.3	10.2	9.3	10.6	11.3

Premium Grade

Octane No..	75	76	76	78	80
Initial	100	90	95	88	88
10 per cent	138	124	130	117	127
20 per cent	156	149	157	143	150
50 per cent	232	233	240	236	226
90 per cent	360	365	360	366	351
Endpoint ..	405	408	402	408	397
Recovery ..	98.0	96.0	97.0	97.0	96.5
V. P.	7.5	9.4	8.3	10.7	9.5

Third Grade

Octane No..	53	45	49	51	60
Initial	98	104	103	104	99
10 per cent	139	169	130	146	151
20 per cent	168	204	145	177	179
50 per cent	251	262	228	256	248
90 per cent	382	384	338	376	365
Endpoint ..	417	424	416	418	406
Recovery ..	96.5	97.0	97.0	97.0	97.0
V. P.	8.6	5.6	6.1	7.4	5.7

COMPANY F

Regular Grade

	1935	1936	1937	1938	1938
Octane No..	69	70	71	72	73
Initial	84	84	82	84	88
10 per cent	109	114	110	106	115
20 per cent	120	129	126	120	128
50 per cent	161	195	196	178	186
90 per cent	313	350	358	340	337
Endpoint ..	405	412	405	400	393
Recovery ..	97.0	97.0	97.0	96.5	97.0
V. P.	12.6	12.6	12.6	13.0	11.5

Premium Grade

Octane No..	75	76	77	78	80
Initial	92	95	98	95	86
10 per cent	111	114	110	111	113
20 per cent	118	122	118	117	128
50 per cent	142	158	135	140	193
90 per cent	261	312	244	275	355
Endpoint ..	385	406	338	380	392
Recovery ..	96.5	97.0	96.0	97.0	96.5
V. P.	11.5	11.3	10.7	10.5	11.8

Third Grade

Octane No..	51	51	52	51	66
Initial	101	100	98	94	91
10 per cent	153	154	142	147	135
20 per cent	185	186	176	177	164
50 per cent	262	264	258	247	250
90 per cent	375	381	378	355	376
Endpoint ..	426	424	420	410	412
Recovery ..	97.0	97.0	97.0	97.0	96.5
V. P.	6.7	6.5	8.4	7.5	8.4

COMPANY I

Regular Grade

	1935	1936	1937	1938	1939
Octane No.	68	69	70	72	73
Initial	92	90	90	89	97
10 per cent	138	140	138	129	140
20 per cent	167	170	172	159	165
50 per cent	247	246	250	236	232
90 per cent	364	352	365	347	331
Endpoint ..	401	398	400	390	380
Recovery ..	96.5	97.5	95.0	97.0	96.5
V. P.	9.0	10.6	8.5	9.0	9.1

Premium Grade

Octane No.	76	76	79	80	80
Initial	95	100	90	89	89
10 per cent	140	148	130	129	136
20 per cent	165	170	158	157	164
50 per cent	218	223	237	234	234
90 per cent	305	307	355	348	342
Endpoint ..	368	363	392	397	382
Recovery ..	97.0	97.0	96.0	97.0	96.0
V. P.	8.6	7.6	9.6	9.7	8.9

Third Grade

Octane No..	54	50	52	53	52
Initial	96	100	105	96	106
10 per cent	148	158	161	144	160
20 per cent	183	187	190	174	186
50 per cent	256	262	259	242	248
90 per cent	373	376	368	352	356
Endpoint ..	416	418	408	405	404
Recovery ..	98.0	98.0	96.0	97.0	97.5
V. P.	7.5	6.5	5.3	7.7	5.8

COMPANY L

Regular Grade

	1935	1936	1937	1938	1939
Octane No.	70	71	70	73	74
Initial	89	90	88	90	88
10 per cent	133	128	125	122	130
20 per cent	161	156	158	152	157
50 per cent	229	230	249	225	232
90 per cent	322	370	360	346	373
Endpoint ..	369	432	420	396	412
Recovery ..	96.0	95.0	96.0	97.0	94.0
V. P.	10.6	11.7	9.4	9.6	10.8

Premium Grade

Octane No.	77	77	75	80	80
Initial	95	89	93	90	91
10 per cent	134	130	134	124	131
20 per cent	158	157	158	149	155
50 per cent	215	224	213	208	219
90 per cent	315	332	301	294	346
Endpoint ..	383	392	376	364	405
Recovery ..	96.5	95.0	96.0	97.0	96.0
V. P.	10.0	11.4	8.5	10.0	10.2

Third Grade

Octane No..	52	51	54	52	59
Initial	95	106	93	93	92
10 per cent	154	164	125	142	137
20 per cent	186	191	164	176	164
50 per cent	250	252	241	240	226
90 per cent	347	356	360	328	326
Endpoint ..	425	412	425	405	406
Recovery ..	97.0	97.0	95.5	97.0	96
V. P.	7.0	6.5	8.2	8.2	8.7

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
REGULAR GRADE											
Octane number	.....	.....	60	61	65	69	69	69	70	72	73
Initial point, °F.	104	97	97	94	94	92	90	87	89	89	89
10 per cent, °F.	150	149	148	143	139	135	127	127	125	122	127
20 per cent, °F.	185	182	182	173	166	163	153	155	150	147	150
50 per cent, °F.	271	261	255	256	247	242	231	236	240	226	225
90 per cent, °F.	381	375	373	377	365	354	352	359	358	352	352
Endpoint, °F.	423	416	411	404	406	403	400	406	401	400	396
Recovery, per cent	97.8	96.5	96.9	96.7	96.5	96.7	96.4	96.2	96.2	96.5	96.0
Vapor pressure	.....	.....	6.4	9.0	9.5	9.5	10.4	11.1	10.3	10.5	10.6
PREMIUM GRADE											
Octane number	.....	.....	72	74	76	75	75	76	77	79	80
Initial point, °F.	106	94	94	97	96	93	94	91	93	90	89
10 per cent, °F.	157	140	141	146	142	136	132	129	126	123	127
20 per cent, °F.	185	174	170	171	177	163	157	153	150	146	149
50 per cent, °F.	257	256	246	243	237	235	225	223	219	217	220
90 per cent, °F.	362	365	361	352	350	344	338	338	332	336	347
Endpoint, °F.	404	407	403	363	399	394	392	392	386	393	393
Recovery, per cent	98.0	97.0	97.6	96.9	96.4	97.1	96.9	96.4	96.5	96.8	96.0
Vapor pressure	.....	.....	7.5	8.1	9.0	8.8	9.6	10.2	9.2	10.4	9.9
THIRD GRADE											
Octane number	.....	.....	.....	51	53	53	52	51	54	52	62
Initial point, °F.	95	87	.....	102	96	94	97	99	97	98	95
10 per cent, °F.	137	143	.....	152	148	146	148	154	143	147	142
20 per cent, °F.	170	177	.....	193	181	180	181	185	173	179	170
50 per cent, °F.	265	267	.....	276	264	252	261	257	248	250	245
90 per cent, °F.	391	404	.....	380	368	367	373	371	361	361	357
Endpoint, °F.	429	437	.....	426	426	425	421	416	411	413	405
Recovery, per cent	96.5	95.5	.....	97.3	97.3	97.5	97.0	96.7	96.7	97.2	96.5
Vapor pressure	.....	.....	.....	6.5	7.6	8.4	7.8	8.0	8.0	7.4	8.0

Results 1929 and 1930 based upon average of tests made on 34 samples purchased from company-owned stations operating in Tulsa, including Phillips, Texas Co., Skelly, Pierce, Magnolia, Barnsdall, Sun, Shell, Transcontinental, Cities Service, Sinclair, Continental, Mid-Continent, Wilcox, Independent Oil, Tidal, National and Southland Gasoline.

Results 1931 to date based upon average of tests made on samples purchased from company-owned stations in Cleveland, Chicago, Kansas City, Fort Worth and Tulsa, including Standard of Ohio, Skelly, Cities Service, Continental Oil, Barnsdall, Mid-Continent, Phillips, Sinclair, Magnolia, Gulf, Texas Co., and Standard of Indiana.

Note: Tests 1938 and 1939 made by L3 method. Preious years A.S.T.M. standard method used.

verse price changes as they are posted by local competitors. They argue further that third-grade gasoline quality has been neglected in past years and as a result, a few marketers have been able to locate small sources of third-grade material with exceptionally high octane values. These marketers have been offering this material and have been getting an increasing amount of the third-grade business. Some major refinery marketers contend they need a good third grade to meet this condition.

Distillation Range

Comparatively little change in the distillation characteristics is reported in each of the gasolines investigated this year and last. The averages for the initial show a tendency to lower, particularly in the third grade. The 10 per cent points on the regular and premium grades were raised slightly compared with one year ago while the average 10 per cent point on the third grade was lowered. The same trend is shown for the 20 per cent points.

The 50, 90 and endpoint averages for the regular grade show little difference when the present averages are compared with those of a year ago. This is also generally true of the premium grade but the third grade averages show a decrease this year compared with a year ago.

The general conclusion may be made after studying all distillation data within the past year, the average volatility of the third-grade gasoline moved upward and toward that of regular grade while the regular and premium grades showed little change.

Little change is shown in the average vapor pressures reported on the respective grades in the past year but it is interesting to note that less than 3 lb. difference exists among the average of the three grades of fuels. By referring to the large table it is apparent that individual refining companies retain the lighter fractions for their regular and premium fuels to gain octane value.

CONFERENCE

(Continued from Page 23)

tion of Louisiana, Texas, Oklahoma, and California.

Mr. Leighton was followed by Ralph Esarey, state geologist, Indiana Department of Conservation, who talked on the "Subsurface Stratigraphy From Well Cuttings, and the Devonian Outcrops of Clark County." He traced the Devonian outcrop across the state and explained the significance of the general unconformable nature of the formation and the stratigraphic changes. Along the flanks of the Cincinnati arch there are a number of anticlines with 20 to 80 ft. of closure. There are some noses and long narrow features approximately ½ by 4 miles wide and evidences of pre-Devonian folding, according to Mr. Esarey.

In his talk on the "Structural and Isopachous Map of the Devonian," J. R. Harris, Indiana Conservation Department, traced two cross-sections across the state which showed the general position of the Devonian. He also pointed out interesting irregularities on the isopachous map which he exhibited and called attention to two noses in the northern part of the state.

A discussion of "The Devonian and Silurian Systems in Illinois With Reference to Oil and Gas" was divided into two sections with L. E. Workman talking on the subsurface distribution and stratigraphy and Dr. A. H. Bell on the oil and gas possibilities. Dr. Bell is head of the oil and gas division of the Illinois State Geological Survey and Mr. Workman is subsurface geologist.

Mr. Workman outlined the distribution of the Devonian and Silurian as well as indicating its thickness in various localities and called attention to the absence of the Silurian in the area of pre-Devonian uplift in Adams and Hancock. Dr. Bell told of past development in the Devonian and Silurian in Illinois and the indications that might lead to the discovery of oil pools in these formations. "Conditions in Illinois during at least part of the Silurian period were probably favorable to the life of organisms that could originate petroleum. It therefore seems desirable to give careful observation and testing to Silurian as well as Devonian strata that are penetrated in wells exploring the deeper formations of the Illinois basin."

F. W. Oudt, geophysicist, Shell Oil Co., Centralia, Ill., was the concluding speaker at the morning session. His subject was "Geophysical Methods in the Exploration for Oil" in which he outlined basic principles underlying the various methods and types of equipment used. He also reported that as time went on the efficiency of the geophysical method and equipment would be taxed more and more as the more obvious structures were developed.

An explanation of the meaning of terms and expressions commonly used in core analysis was given by Ed Shakely, senior exploitation engineer, eastern area, of Shell Oil Co., Centralia, Ill. He also described the volumetric method of estimating the ultimate recovery of a field from core samples. A short discussion on core analysis was given by James A. Lewis, Core Laboratories, Inc., Dallas, Tex.

R. J. Sullivan, division engineer, Carter Oil Co., Mattoon, Ill., talked on "Gas Injection Methods of Increasing Recovery," describing different reservoirs and the methods applied and the results obtained. Cost of this type of operation is greatly dependent on the specific field being treated. A short discussion by A. C. Dahl, exploration engineer, Shell Oil Co., Centralia, followed.

"Multiple Sand Production Practices" were summed up by Bart Delatt, division production engineer, and W. M. Saxon, production engineer, Pure Oil Co., Olney, Ill. The discussion was of interest to Illinois producers as many of the state's fields produce from multiple pay zones. The method in use for a number of years was often tried in the old Illinois fields, but there have been many recent improvements and its use is becoming more widespread, according to the authors.

G. M. Stearns, assistant professor of petroleum engineering, University of Oklahoma, read a paper on "Welded Casing" stressing the advantage of this method of completion. The over-all reduction in costs was an outstanding feature economically, Mr. Stearns said. C. G. Harrington, assistant division engineer, Carter Oil Co., Mattoon, Ill., elaborated on Mr. Stearns' remarks and gave figures from his own company's experience.

The chairman for the morning session was C. C. Carroll, manager Illinois division, Ohio Oil Co., Marshall, Ill., and vice president of the host organization. Alex U. McCandless, Mahutska Oil Co., Robinson, Ill., president of the Illinois-Indiana Petroleum Association, presided in the afternoon. Other officers of the organization are: A. F. Lager, Siosi Co., Terre Haute, Ind., second vice president; T. B. Steele, Kewanee Oil Co., Robinson, Ill., treasurer; R. W. McIlvain, Jr., Pure Oil Co., Olney, Ill., secretary; and Lee Mulvihill, Robinson, Ill., executive secretary.

J. J. Conry, president of Carter Oil Co., Tulsa, and O. D. Donnell, president of Ohio Oil Co., Findlay, Ohio, attended the meeting.

Big Flush on Music Mountain Is Under Control

By J. P. O'DONNELL

BRADFORD, Pa., June 5.—While producers elsewhere in the Pennsylvania Grade fields are expressing concern over the possibilities of the Music Mountain area, a few miles south of here, where a score of big wells have been drilled in the past 2 years, operators there have little fear of the effect of their production on the market. Their belief is based on the facts that (1) strict proration is in effect; (2) five of the six operators also operate in the water-flood area and therefore cannot afford to jeopardize those investments; and (3) production is restricted by paraffin depositions. While an accurate gage has yet to be taken on any of the wells at completion, estimated initials have ranged from minimum of 40 to 50 bbl. an hour to as high as 15,000 bbl. per day.

The first of these wells, some of which are among the largest drilled in the 80-year history of the Pennsylvania oil developments, was completed in August 1937 by E. A. Williams & Sons for Niagara Oil Corp., a subsidiary of the Forest Oil Co., one of the largest water-flood producers in the Bradford field. E. A. Williams & Sons, producers as well as contractors, are the only non-water-flood operators now in the Music Mountain area. Others are Healey Petroleum Corp., Minard Run Oil Co., and Duffy & Wilson.

Productive Acreage

The proven length of the pool to date is 3 miles, and the greatest width is 1,600 ft. The extent of the productive acreage is estimated at from 325 to 625 acres, and estimates of recovery range from 5,000 to 10,000 bbl. per acre, with estimates of the total reserve centering on approximately 3,125,000 bbl. of the equivalent of 80 days' production for the entire Bradford field at its present rate of about 40,000 bbl. per day.

Like virtually all other pools in the Pennsylvania Grade area, this has a northeast-southwest trend. The northeastern limits are believed to be well defined by the drilling of several holes which are perpendicular to the axis and which either missed the sand entirely or found it dry. However, there is the possibility of a further extension to the southwest. A 750-ft. extension in this direction was completed by Duffy & Wilson late in April. Even if the pool were to be doubled in length by further southwest extensions, only three additional operators would be included. All the development has been done by the present owners, and no proven property is available.

While the producing sand is known locally as the Sliverville, it is believed to correspond with the white Cooper sand from which the Balltown and Cooper pools, in Forest County, and the McDonald pool, in Washington County, produced. The first two pools were opened in the early eighties and the latter in 1890. The Sliverville sand is white and pebbly and similar to that of other "white sand" pools.

The Sliverville sand is very irregular in location and thickness. Irregularity of its location makes the drilling of any well in the area a wildcat operation, with the odds at present being 3 to 2 against the operator. This is evidenced by the fact that of the 50 wells drilled in the comparatively restricted area, only 22 are large wells in the Sliverville. An example of this is shown in the accompanying map where producing wells Nos. 110 and 115 are surrounded by wells Nos. 113, 116, 118, and 119, all of which are dry so far as the Sliverville was concerned. Another example of the erratic nature of the sand is shown by the fact that one well found 48 ft. of sand in which the first 15 ft. was devoid of production, another found five 2-ft. pays, and a third but a single, thin pay.

Cost of drilling and completing a well, which includes tubing under pressure, averages $5,500. All drilling is done with cable tools. The wells are usually started with 8-in. drive pipe and about 425 ft. of 6¼-in. 17-lb., or 7-in. 20-lb., casing is set on a packer or cemented. The 6½-in. hole is carried to the top of the sand. Before drilling in, a tubing head is placed on the casing, and a control head or master gate, equipped for use as an oil saver to pack off around the ⅞-in. wire line used for drilling, is installed on top of the tubing head in the small cellar.

Bottom-hole equipment includes the tubing anchor, a joint of perforated tubing under the packer, and the packer, a three-step cone-anchor packer with 30-in. duprene surface. To get this equipment started in the hole, a lubricator, made up of a joint of 7-in. casing and equipped with two blowout preventers is utilized. The removable check valve above the packer is removed with a small string run in on wire line inside the tubing. Drilling in is done with a 50-ft. lubricator made of 10-in. pipe, which is flanged to the top of the control head. The line enters the lubricator through an oil saver. All wells in the pool have been tubed by Otis Eastern Service, of Bradford, utilizing a snubbing device until sufficient weight is available to draw the tubing down into the hole.

(Above) Oil and gas separator on Healey Petroleum Corp. lease in Music Mountain area, an unusual sight in Pennsylvania fields where wells normally dribble into a tank where gravity separation takes place.

(Left) Surface connections on E. A. Williams & Sons well in Music Mountain pool. The picture gives some idea of the dimensions of the small "cellar" generally used

Drilling and completing a well and moving the rig to a new location usually requires about 6 weeks, with 15 days spent in actual drilling. At present seven strings are running in the area, one of these in an old hole. As the map indicates, locations have been staked for a number of wells, but operations on these will not begin in some instances for many months. Most interesting of these are the two on the John Becker tract, 2,700 and 6,300 ft. southwest of the Duffy & Wilson well. The producing wells are allowed to flow openly only during completion, and at the same time other

(Above) Close-up of well on Healey Petroleum Corp. lease, Music Mountain pool

wells on that property are shut in to compensate for oil produced during the drilling-in period.

The original formation pressure in the eastern end of the pool was 550 lb. per sq. in. and in the western end 630 lb. per sq. in. These pressures were taken in gas wells which have since turned to oil. The first gas well, drilled by E. A. Williams & Sons and Becker, had an initial open flow of 7,000,000 cu. ft. per day. It had a life of 2 months before doing the same as most other gassers drilled so far: turning to oil. A normally short-lived gas pay is often found just above the oil pay though sometimes the pays are separated by thick shale breaks. The Williams & Becker well has since been exceeded by Minard Run Oil Co. No. 105, which had an initial of 9,000,000 cu. ft. after being deepened 2 ft. in March of this year. However, there has been no commercial gas production from the pool so far.

Two pipe-line companies now serve the area, the Bradford Transit Co. and the United Refining Co., the latter of Warren, Pa. Both of these employ maximum-production contracts so that the operators in the pool are definitely restricted. Those who have water-flood production as well are restricted to the amount specified in one contract so that production from the Sliverville pool can be taken only at the expense of the water-flood production, or vice versa. Such restrictions have kept the maximum production of the pool to no higher than 2,000 bbl. per day, though it has a probably short-lived potential of perhaps 20 times that. Production today is comparable to that of a 200-acre water-flood property at peak development and is regarded by Bradford producers as no greater threat to market stability than the undertaking of such a development.

Depth of the Sliverville sand averages 1,700 ft., with wells encountering the formation from 1,309 ft. to 1,810 ft., depending on the elevation. The sand lies about 300 ft. above the Bradford Third sand, and wells which fail to find production in the Sliverville are deepened and completed as 3 or 4-bbl. producers in the Bradford Third or the underlying Lewis Run sand.

Excessive Paraffin

A very effective deterrent to excess production in this area is the extraordinary heavy accumulations of paraffin that are deposited on the face of the sand and, since it is highly porous, probably back into the formation. These accumulations are so heavy as to necessitate frequent swabbing, and in some wells scrapers are run every 8 hours. A safe production limit in order to maintain paraffin deposits at a minimum is believed to be from 20 to 30 bbl. per well per day. Two wells, produced at the rate of 40 bbl. per day, were practically plugged off at the end of 3 months, but came back after being cleaned out.

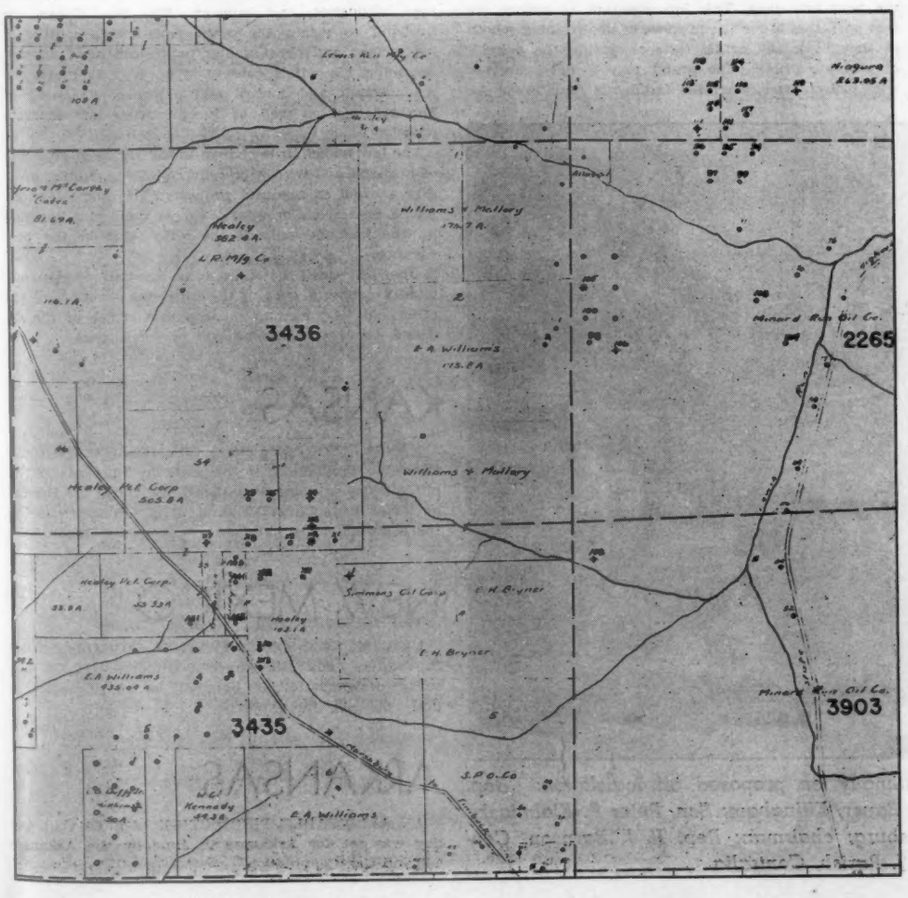
This characteristic was effectively demonstrated at the end of a 14-month shut-in period for some of the wells which were among the first drilled. The length of the shut-in period, incidentally, gives an idea of the extent of the production control which is in effect. One of these wells was recently opened and was found to be plugged solid at a point 900 ft. from the surface with paraffin. After normal methods failed, an augur set on the end of a string of sucker rods was used in an attempt to drill out the paraffin. The oil is of a heavier gravity than average Bradford crude, which accounts for its unusual paraffin content, so heavy that it sometimes congeals in a hole full of oil. This fact also makes it necessary to steam the oil in at least 9 months of the year.

The accompanying map shows the extent of development to date in the Music Mountain area. Wells shown which have been drilled to Sliverville sand to date follow: Nos. 110 (discovery); 111, 112 (dry); 113 (small producer in Sliverville); 115, 116 (small producers); 118 (small producer from lower sand); 119 (dry); 94 (50,000 cu. ft. of gas, 3 bbl. of oil); 95, 96 (pumpers, no Sliverville); 97, 98, 99 (pumpers, 10,000 cu. ft. of gas); 100, 101 (dry); 102 (dry); 103 (small Bradford sand producer); 104 (small Bradford sand producer); 105 (9,000,000 cu. ft. of gas); X1 (pumper); X2 (500,000 cu. ft. of gas); X3 (5,000,000 cu. ft. of gas, also flowing oil); X4 (dry); X5 (small producer); X6 (dry); X7 (dry); X8, X9 (small pumpers); X10, X11 (5,000,000 cu. ft. of gas in addition to oil production); X12, X13 (dry); Simmons 1 (dry); E. A. Williams 175.8 acres, 1, 2; E. A. Williams 435.04 acres, 1, 2, 3, 4; Duffy 1, 2; AH1, AG1, AG2, AG3. Those wells unaccompanied by explanatory data in parentheses are producing oil from the Sliverville, according to the most complete information available.

Conservative Estimate

The estimate of 3,125,000 bbl. as the ultimate production of the Music Mountain pool is indicative of the conservatism of Bradford oil men. Mid-Continent operators would undoubtedly rate the total output of a field that could develop wells as large as the recent one of Williams & Son very much higher than their Bradford brethren have done. Bradford operators appear to have reduced the possible acreage to the limit and reduced the production per acre to the limit. If their prediction is right, the total output of Music Mountain will not greatly increase the ultimate of the Bradford field, which has already produced over 390,000,000 bbl. of oil and is capable of producing 50,000 bbl. a day if called upon. However, Music Mountain is interesting, inasmuch as it was not discovered until about 60 years after the field was opened, notwithstanding the locality is just on the edge of the big Bradford sand field.

(Below) Sliverville sand wells in Music Mountain pool on the southwestern edge of the Bradford field



STATE CAPITALS

TEXAS

AN OIL PRORATION ORDER covering July and August will be issued by the Railroad Commission after testimony has been heard on June 12, Chairman Lon A. Smith announced late last week. Since all three commissioners concurred in the issuance of the order of May 29 adding an additional two Saturdays to the number of shutdowns in June, the hearing is not expected to be quite as detailed as those of March and last December. Some observers expect considerable emphasis to be placed on market demand and the distribution of the total demand among the various oil-producing states, in view of Commissioner Sadler's recent statements threatening to throw Texas wide open if the other states did not cooperate. Chairman Smith also stated that in the interest of an equitable division of production allowances among various southwestern states, governors of Arizona, Arkansas, Louisiana, New Mexico and Oklahoma had been invited to attend the hearing or have representatives present. He also stated that response to the recent order restoring two additional days of shutins during June had been very favorable.

Check of production figures showed Texas' basic allowable on June 1 was 1,740,576 bbl., but due to the 8 days of shutdowns the average daily allowable during June will be about 1,313,222 bbl. Thus indicated production will be about 114,078 bbl. under the Bureau of Mines estimated demand figure of 1,427,300 bbl. In commenting on these figures Commissioner Sadler late last week stated:

"This allowable has been set under the bureau's estimate for the purpose of giving other oil-producing states an opportunity to make adjustments in conformity with the demand. I am in favor of keeping our production down for the next 60 days so that the other states may put their house in order. Too much has been said about the great amount of oil produced in Texas. This time we are lowering the allowable to set an example for those who have talked so much, and to show them that we are acting in good faith and expect them to make necessary reductions. In this manner we can keep the oil industry in good shape."

RAILROAD COMMISSION Saturday launched an investigation of dead wells, those unable to produce oil in quantities allocated them. Chairman Lon A Smith said preliminary investigations had convinced the engineering staff there were several thousand dead wells in the state and it was the commission's intention to clear up this situation. In the past, charges have been made that oil sometimes prorated to dead wells has been drawn from live ones.

CALIFORNIA

BEHIND A VEIL OF STRICT SECRECY, the federal grand jury impaneled for the purpose of deciding whether California marketers have violated the Sherman antitrust law, held its first session in Los Angeles June 2 and resumed its investigation again June 5. Only two witnesses were called by Joseph E. Brill, assistant to the attorney general, who is in charge of the special grand jury investigation but several more witnesses will be called later. The first two witnesses from Los Angeles were Enoch Cramer of 3457 Cahuenga Avenue and George Weisbart of 1669 North Main Street, both service station operators in Los Angeles. Witnesses from San Francisco have been subpoenaed and are scheduled to be heard within the next few days. This interrogation of service station operators is for the purpose of determining whether they have any actual facts regarding the pegging of gasoline prices. The grand jury is not concerned with prices fixed under the California Fair Trade Act which is valid but is investigating price fixing which is contrary to law. The present investigation is expected to last at least 3 months and before being brought to a close the jurors will interrogate officials of practically all marketing companies and agencies. It is questionable whether the investigation at this time will cover curtailment activities.

Illinois legislative committee which heard testimony on proposed oil legislation: Rep. Everett R. Peters, St. Joseph; Rep. George P. Bauer, Effingham; Sen. Peter P. Kielminski, Chicago; standing: Rep. Oral P. Tuttle, Harrisburg; chairman; Rep. R. J. Barnson, Centralia; and Sen. John J. Parish, Centralia

OKLAHOMA

THE NEW OKLAHOMA COMMUNITY PROPERTY law, passed by the recent legislature and which becomes operative on July 28, is of great interest to oil men, according to Harry A. Campbell and Roger S. Randolph, Tulsa lawyers.

The purpose of this law is to allow husbands and wives to divide their income equally and thus, by placing their income in lower tax brackets, effect substantial savings in federal and state income taxes. In so doing, Oklahoma taxpayers will be placed on a parity with those of Texas, Louisiana and New Mexico in the Mid-Continent area and with five other states.

The law applies only to those husbands and wives who voluntarily elect to come under its terms. The election must be made in writing, and signed and acknowledged by both husband and wife. One copy must be filed in the office of the clerk of the county, and the other with the secretary of state. This election becomes effective on the first day of the month following the date of filing. Since the law does not take effect until July 28, it will be August 1 before elections will be operative.

The election affects only income from salaries and from stocks and bonds and other personal property, and only income of this kind which will be earned in the future. All income which has been earned and all property which was separately owned before the effective date of the election continues to belong to its former owners. Also, the income to be earned from lands is not affected by the election and continues to belong to the record owner.

The election gives the wife a vested undivided one-half interest in the salary and all dividends and interest income of her husband, and likewise gives the husband the same interest in his wife's personal earnings, dividends, and interest. The law allows the husband to retain the management and control of his income and permits him to dispose of it without obtaining his wife's consent. The wife is given the management and control and power of disposing of her earnings as well as income from her separate property.

The law makes little change in the rights of creditors of husband and wife, who may claim community property as well as separate property. The homestead remains free from creditors' claims, and may be sold by the husband only if the wife joins in the conveyance.

Upon the death of one spouse, one-half of the community property goes to the surviving spouse and the other half is added to the separate estate of the deceased spouse to pass by will or inheritance.

KANSAS

KANSAS CORPORATION COMMISSION fixed the allowable production of the state in June at 165,880 bbl. per day or more than 13,000 bbl. above the Bureau of Mines estimate of demand. The demand made to the commission by purchasers was 169,961 bbl.

NEW MEXICO

NEW MEXICO CONSERVATION COMMISSION set the state's daily allowable for June at 117,000 bbl. today, of which 113,000 bbl. will be for domestic use and 4,000 bbl. for export.

ARKANSAS

AN ALLOWABLE PRODUCTION of 57,641 bbl. per day was set for Arkansas in June by the Arkansas Oil and Gas Commission.

The OIL AND GAS JOURNAL

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Good So Far

It is encouraging to find a distinctly less pessimistic tone in oil industry comment. It is hopeful, too, to note that it shows no trace of the familiar overconfidence that usually marks the industry's swing from one extreme to the other.

It is recognized that we are far from being out of the woods, that to maintain the slight betterment in trend, not to speak of expanding it, still requires the utmost caution in the ordering of operations in all branches, producing, manufacturing and marketing.

What has happened is, however, all to the good. There has been an improvement in the gasoline market to the extent in the Mid-Continent of at least permitting refiners to break even.

The decision of the Texas Commission to return to the 2-day a week shutdown during June and possibly for 90 days, bringing the state allowable 114,000 bbl. daily under the Bureau of Mines recommendation, has, for the time being, ended fear of a cut in the price of crude because of overproduction.

The commission, having given its original theory a trial, is now, Commissioner Sadler says, going to try the other, with the hope that other oil-producing states will follow Texas in curbing overproduction.

The fact that there was an increase in crude oil stocks of 1,221,000 bbl. in the week ending May 27 emphasized the necessity for remedial action.

As one former critic of East Texas curtailment said: "The market situation had become very unfavorable and oil was being sold in great quantities at less than the posted price, which would inevitably result in a price break that would adversely affect every producer and royalty owner in Texas."

Conservation was being threatened by a decline in bottom-hole pressure, demonstrating the soundness of warnings by engineers if proper principles were not observed in the big field.

Coupled with the constructive order of the Texas Commission was the news that in California the new uniform method of allotment recommended by the fact-finding committee and accepted by the Central Committee of California Oil Producers had been put into effect June 1. It is estimated the new method, when fully effective, will reduce the state production by 25,000 bbl. and keep it under 600,000 bbl. daily.

This is of general importance because heavy inventories in California threatened stability in other areas.

Offsetting these favorable developments there, of course, remains the situation in Illinois of which J. Edgar Pew spoke with characteristic force before the Illinois-Indiana petroleum conference at Robinson on Saturday.

He warned Illinois against those who are "urging you to adopt an unsound policy that will waste your oil resources and that will make your production only a temporary and fleeting matter.

"With a stabilized industry, enabling the greatest amount of ultimate production, the producer gets a better price for his crude, while the public gets its petroleum products cheaper and is assured of getting them for a much longer time. If crude were at all times produced under the best engineering practices, we should have no overproduction. We would do equity as between all producers, and have stable and satisfactory markets."

Texas has learned that from experience. There was a time when many Texans and in the industry at large were as much opposed to conservation by curtailment as any in Illinois today.

Michigan has joined the compact states and is controlling production by law. The compulsion of experience is irresistible and inevitable.

I. P. A. A. Maintains Stand on Divorcement Issue

By D. H. STORMONT

DALLAS, Tex., June 6.—At the membership meeting of the Independent Petroleum Association of America here today, held primarily for receiving the report of the special study Committee of 36 and to establish the position of the association on the questions of pipe-line divorcement and divorcement of marketing from other phases of industry, an overwhelming opinion was expressed against disintegration.

The question arousing most discussion was a proposal providing for a federal umpire to make allocations of production between states. No definite action was taken on the federal umpire proposal, except that it was voted that a special study committee of five members continue its study until the annual meeting next fall. This was done in the belief that the Temporary National Economic Committee by that time will have held its oil hearings and the association would have the benefit of these studies. This proposal had originally been submitted by Amos L. Beaty in the form of a suggested bill to be presented to Congress.

The committee recommended to the membership that (1) transportation of petroleum and its products, including operation of pipe lines, not be divorced from other branches at this time; (2) that the association not advocate divorcement of marketing from other branches, or disintegration of the industry into four natural branches; (3) regarding imports that the association reaffirm the position taken at the Tulsa annual meeting; (4) on the proposed total shutdown the committee believed there was no immediate necessity for, and was doubtful of the legal basis of, such action; (5) on the question of refinery regulation simply that "We believe it is possible for refinery operations as well as production operations to be provided for under the provisions of the interstate oil compact, enabling refiners to work with and through the compact commission in such states where this compact is operating. This may necessitate the amendment of state conservation laws to provide for refinery waste laws."

It also recommended that the association approve the appointment of a committee of five, of which the president is chairman, to undertake to accomplish the following objectives: (1) To expedite approval by the Federal Trade Commission of a code of fair competition that has been submitted to the commission by the oil industry, and failing to obtain its prompt approval, to ascertain the specific objections thereto in its present form that have been lodged against it, either by the Federal Trade Commission or the Department of Justice; (2) to ascertain the cost and time necessary to complete a study of the problems of the industry from the refinery to the consumer; (3) to ascertain whether or not it is lawful and feasible and, if so, to undertake then to have the Securities Exchange Commission to require all integrated companies listed and reporting to the S.E.C. to make annual statements of the result of their financial operations in the four departments of such integrated companies.

A motion was made by Al Guiberson to consider the report by sections, but this was voted down and the report was passed on as a whole.

A forecast of a price break in Illinois in the next few weeks was made by Paul G. Blazer of Ashland Oil & Refining Co., who said in discussing the committee report, less than 15 per cent of Illinois production is being bought and sold at the posted price. Mr. Blazer did not favor divorcement and did not believe such action would solve the industry's problems.

Committee Meeting

Wirt Franklin, Ardmore, Okla., chairman of the special Committee of 36, had with him in person or by proxy 23 members of the 35-member group, the late Amos L. Beaty's place being unfilled. President Charles F. Roeser, Fort Worth; Harold B. Fell, Ardmore, executive vice president, and several of the association's directors were also present at the meeting of the committee.

Committee members reporting in person were K. S. Adams, Bartlesville, Okla.; J. S. Bridwell, Wichita Falls; Al Buchanan, San Antonio; Frank Buttram, Oklahoma City; R. H. Foster, Fort Worth; S. A. Guiberson, Jr., Dallas; Jake Hamon, Dallas; Capt. B. A. Hardey, Shreveport; Winston P. Henry, Houston; J. C. Hunter, Abilene; A. E. Johnson, Denver, Colo.; C. A. Johnson, Los Angeles; C. A. Lester, Dallas; E. C. Moriarty, Wichita, Kans.; A. A. Seeligson, San Antonio; E. B. Shawver, Wichita; W. G. Skelly, Tulsa; Van S. Welch, Artesia, N. M., and Ralph T. Zook, Bradford, Pa.

The special study Committee of 36 was named following the annual meeting last October in Tulsa. To it were submitted these questions, on which resolutions had been proposed during the convention:

(*a*) Pipe line divorcement.

(*b*) Complete disintegration of all integrated companies.

(*c*) Temporary prohibition of all imports of petroleum and its products.

(*d*) Recommended total shutdown in all oil-producing states having regulatory bodies.

(*e*) Umpire to make allocations that are enforceable between oil-producing states.

(*f*) All other questions submitted to them by the president or executive committee.

THE MARKETS*

CRUDE OIL: *Favorable developments in the gasoline markets are exerting a tonic influence on crude, and sentiment is more cheerful. Illinois overproduction remains a source of some uneasiness. Rock Island Refining Co. posts 3-cent raise in Oklahoma, effective June 8.*

REFINERY: *Tourist demand beginning to be felt in gasoline trade. Quotations generally turning upward. Heavy fuels gaining. Natural gasoline firmer. Buying for storage is holding heating oils fairly steady. Increased shipments of lubricants, but no price changes.*

TANK-WAGON AND POSTED DEALER: *Standard of Indiana advances subnormal tank-wagon prices for gasoline in Minnesota, Iowa, Missouri (except St. Louis and St. Louis County), Kansas, North Dakota, and South Dakota.*

FINANCIAL: *Oil shares irregular, in sympathy with general market, but some issues register gains. Average of 30 representative stocks for week ending June 3: High, 25.68; low, 24.77; close, 25.16. Week ending May 27: High, 25.69; low, 24.43; close, 25.40.*

**Detailed information in market section.*

Supply-and-Demand Committee Report on Statistical Position

The committee on supply and demand in its report stated that many unsound and inequitable conditions still exist: pipe line proration in stripper areas resulting in stripper wells losing their markets; price differentials for crude from same field; oil production too high in some fields and unnecessary wells being drilled. A large portion of the present problem is believed to arise from the fact that crude and products stocks are in such amounts that some purchasers prefer to withdraw from storage rather than purchase current production.

Developments in the statistical position of the industry since March 15, with few exceptions, have been unfavorable, it said, pointing out high crude runs, and that high rate of crude production has resulted in additions to storage. Continued slight reductions in crude stocks was recommended, with production east of California around 2,750,000 bbl. daily during June, July, August, and September.

Rock Island Refining Co. Raises Its Crude Prices

Rock Island Refining Co. announced on Tuesday, that effective June 8, it would increase its posted prices for Oklahoma crude oil 3 cents per barrel, making its new schedule read 20 gravity and below 53 cents, with 3 cents added for each degree up to and including 30-30.9° at 83 cents; then 2 cents added for each degree up to 40° and over at $1.03.

Deep Rock Reorganization Plan Filed in Court

Under a plan of reorganization of Deep Rock Oil Corp., approved by representatives of the reorganization committee, independent preferred stockholders committee, and Standard Gas & Electric Co., which has been filed in the federal court at Tulsa, it is proposed to reorganize Deep Rock by issuance to holders of $10,000,000 of Deep Rock convertible gold notes new 6 per cent income debentures in the principal sum of $11,000,000, and to distribute to preferred stockholders 200,000 shares of class A common stock with liquidation value of $25 per share. Class B common of 400,000 shares is proposed to be distributed in the following proportions: To stockholders, 100,000 shares. To preferred stockholders, 50,000 shares. To Standard Gas & Electric Co., 250,000,000 shares.

Henry N. Greis is recommended as the chief executive officer of the reorganized company.

New Jersey Earnings Less During First Quarter

NEW YORK, June 6.—W. S. Farish, president of Standard Oil Co. of New Jersey, told stockholders today earnings in the first quarter averaged slightly more than $5,000,000 a month compared to $6,500,000 a month in the 1938 period.

He added: "We are very gratified under conditions that exist in the oil industry today that we are doing that well."

Mid-Continent Strike

Nineteen alleged leaders in the Mid-Continent Petroleum Corp. strike on December 22 will attempt to obtain a release from a riot charge by presenting a demurrer in Tulsa District Court. Hearings before the National Labor Relations Board were resumed on June 1.

New Uniform Method of Allotment in California

By L. P. STOCKMAN

LOS ANGELES, Calif., June 5.—California producers are now operating on a new uniform method of allotment, adopted by the Central Committee of California Oil Producers, official curtailment group, May 17, which became effective June 1 in all fields. It may be 10 days before maximum effectiveness is reached because in a few fields the formula has been modified for intrafield allocation by the field committee.

The principal feature is the establishment of a minimum allotment of 10 bbl. per day. The minimum allotment consumes about 310,000 bbl. of the state's quota and the remainder is distributed on the basis of well potential on a sliding scale, so the larger wells bear the greater part of curtailment.

No well, regardless of size or depth, will be permitted to produce more than 250 bbl. per day. A well must have a potential of more than 1,359 bbl. per day if it is under 2,000 ft. to receive the top allotment of 250 bbl. Wells producing from the 11,000-ft. zone, which takes care of Rio Bravo and Greeley, must show a potential of 775 bbl. per day to produce the top of 250 bbl. For wells in the Wasco field in the 12,000-ft. bracket a well must have a potential of 695 bbl. to produce the 250-bbl. maximum. A 695-bbl. well below 2,000 ft. receives an allotment of only 154 bbl. This new formula, therefore, recognizes it costs more to drill deeper.

This is the first uniform method of allocation used in the state. It involves besides an allotment for depth an additional allotment based upon the remaining potential of the well. Where the formula has been modified the field and pool quotas have been set by application of the allocation table to each well. Each operator must add up the allotments of his wells to determine his lease allotment.

The method used for the first time in June is expected to be used for subsequent periods unless some unforeseen obstacle arises. For June the Central Committee set the state quota at the total required under the allocation formula, but stipulated actual production should not exceed 595,000 bbl. per day. If all operators in the Wilmington field conform it will result in a curtailment of about 10,000 bbl. per day. To produce the maximum allotment of 250 bbl. wells in Wilmington must show a potential of about 1,250 bbl. This will vary with the depth of the wells. In the case of multiple zone wells, those producing from two or more zones simultaneously, it is the intention to treat each zone separately. Actual production of Wilmington field during May has been around 90,000 bbl. per day so that if operators succeed in curtailing an additional 10,000 bbl. per day production should approximate 80,000 bbl. during June. Projected completion of at least 10 new wells during the month indicates actual production will be somewhat higher than expectations.

Kettleman North Dome field presents a problem by no means solved by the new method and it remains to be seen what action is taken by Kettleman North Dome Association, Standard Oil Co. and other operators having producing wells in the field. Kenda and Standard Oil Co. have been working on a program on the basis that each will produce its prorata share from its properties. This plan has worked out very well since the unit plan began several years ago because the operations of both were flexible enough to permit the transfer of allowables from one section to the other. Some 261 wells are capable of producing in Kettleman North dome, although not all have potential production high enough to produce the maximum of 250 bbl. daily.

ALLOCATION TABLE

Allotment and potential in barrels of 42 U. S. gallons.

Potential	Allotment according to depth (in feet)										
	0-2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000	11,000	12,000
5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5
10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
11	*11	*11	*11	*11	*11	*11	*11	*11	*11	*11	*11
15	13.9	*15	*15	*15	*15	*15	*15	*15	*15	*15	*15
18	15.4	*18	*18	*18	*18	*18	*18	*18	*18	*18	*18
20	16.3	19.7	*20	*20	*20	*20	*20	*20	*20	*20	*20
25	18.4	22.4	*25	*25	*25	*25	*25	*25	*25	*25	*25
26	18.8	22.9	*26	*26	*26	*26	*26	*26	*26	*26	*26
30	20.4	24.6	28.9	*30	*30	*30	*30	*30	*30	*30	*30
35	22.2	26.6	31.3	*35	*35	*35	*35	*35	*35	*35	*35
40	23.9	28.5	33.4	38.4	*40	*40	*40	*40	*40	*40	*40
45	26	30.2	35.4	40.8	*45	*45	*45	*45	*45	*45	*45
50	27	32	37.2	42.8	48.4	*50	*50	*50	*50	*50	*50
56	29	34	39.3	45.1	51.2	*56	*56	*56	*56	*56	*56
60	30	35	41	46.6	52.8	58.9	*60	*60	*60	*60	*60
68	33	38	43	49.3	55.8	62.6	*68	*68	*68	*68	*68
70	33	38	44	50	56.6	63.4	69.7	*70	*70	*70	*70
80	36	41	47	53	59.9	67.2	74.6	*80	*80	*80	*80
81	36	41	47	53	60	67.6	75.0	*81	*81	*81	*81
90	39	44	50	56	63	70.6	78.5	86.3	*90	*90	*90
95	*40	45	51	58	65	72	80.2	88.4	*95	*95	*95
100	41	47	52	59	66	74	82	90.4	98.4	*100	*100
110	44	49	55	62	69	77	85	93.9	102.8	*110	*110
120	46	52	58	64	72	80	88	97	106.6	115.8	*120
126	48	53	59	66	73	81	90	99	108.6	118.2	*126
130	49	54	60	67	74	82	91	100	110	119.8	128.9
140	51	57	63	69	77	85	94	103	113	123.3	133.4
150	54	59	65	72	79	88	97	106	116	127	137.2
160	56	61	67	74	82	90	99	109	119	130	141
170	58	64	70	77	84	93	102	111	122	132	144
180	60	66	72	79	87	95	104	114	124	135	147
190	63	68	74	81	89	97	107	116	127	138	150
200	65	70	76	83	91	100	109	119	129	141	152
210	67	72	79	86	93	102	111	121	132	143	155
220	69	75	81	88	96	104	114	124	134	146	158
230	71	77	83	90	98	106	116	126	137	148	160
240	73	79	85	92	100	109	118	128	139	150	163
250	75	81	87	94	102	111	120	130	141	153	165
260	77	83	89	96	104	113	122	133	143	155	167
270	79	85	91	98	106	115	125	135	146	157	170
280	81	87	93	100	108	117	127	137	148	160	172
290	83	89	95	102	110	119	129	139	150	162	174
300	85	91	97	104	112	121	131	141	152	164	176
320	89	95	101	108	116	125	135	145	156	168	181
340	93	99	105	112	120	129	139	149	160	172	185
360	97	102	109	116	124	133	143	153	164	176	189
380	100	106	113	120	128	137	147	157	168	180	193
400	104	110	116	124	132	141	150	161	172	184	197
420	108	113	120	127	135	144	154	165	176	188	201
440	111	117	123	131	139	148	158	168	180	192	205
460	115	120	127	134	143	152	162	172	184	196	209
480	118	124	131	138	146	155	165	176	187	200	213
500	122	127	134	141	150	159	169	179	191	203	216
520	125	131	137	145	153	162	172	183	194	207	220
540	128	134	141	148	157	166	176	186	198	210	223
560	132	138	144	152	160	169	179	190	201	214	227
580	135	141	148	155	163	173	183	193	205	217	231
600	138	144	151	158	167	176	186	197	208	221	234
650	147	152	159	167	175	184	194	205	217	229	243
695	154	160	166	174	182	192	202	213	224	237	250
750	162	168	175	183	191	200	210	221	233	246	...
775	166	172	179	187	195	204	214	225	237	250	...
800	170	176	183	190	199	208	218	229	241	...	...
855	179	184	191	199	207	217	227	238	250	...	...
935	190	196	203	211	219	229	239	250	...	...	...
1,010	201	207	214	222	230	240	250	...	...	...	...
1,080	212	218	224	232	241	250	...	...	...	...	...
1,145	221	227	234	241	250	...	...	...	...	...	...
1,205	229	235	242	250	...	...	...	...	...	...	...
1,265	237	243	250	...	...	...	...	...	...	...	...
1,315	244	250	...	...	...	...	...	...	...	...	...
1,360	250	...	...	...	...	...	...	...	...	...	...

*Same as potential.

Natural Gas News

Oklahoma Commission Asks Lone Star Investigation

A resolution asking the Federal Power Commission to investigate rates of Lone Star Gas Co. has been agreed upon by the Oklahoma Corporation Commission, Ray O. Weems, member, said. The state senate passed a resolution in the last session asking an investigation of the rates and Weems said the commission resolution will supplement it.

Lone Star Gas Co., a subsidiary of the Lone Star Gas Corp. of Pennsylvania, furnishes gas to the Community Natural Gas Co., which serves 26 Oklahoma cities. A reduction was ordered in 1933, but was defeated when the company appealed to the state Supreme Court. Later a small reduction was made by agreement, but the senate and commission seeks a complete investigation of the interlocking companies and rates charged.

California Seeks to Stop Gas Waste at Montebello

LOS ANGELES, Calif.—George D. Nordenholt, director of natural resources of California, has decided something should be done about the waste of gas and this week instituted, through Attorney General Earl Warren, court action against operators in the Montebello field. Some 23 operators and companies were cited before Superior Judge Emmet Wilson June 9 to show why an injunction should not be issued. The complaint alleges operators have blown approximately 30,000,000 cu. ft. of gas to the air daily. The city of Montebello has also taken action to stop the waste of gas but is marking time pending the action by the Department of Natural Resources. Operators found it would be possible to pipe the gas out of the city limits and blow it to the air in the county and the municipality decided to wait outcome of the state's action.

The action to prevent gas waste is of primary importance to operators now drilling wells because if the gas head is dissipated they will be unable to produce their normal expectancy. In view of the condition of the zone every indication points to the probability that ultimate production will not come up to expectations and, if the gas is blown to the air, production will be reduced, resulting in severe losses to operators. Several engineers have warned operators to go slow in development of the western extension as the limited thickness of the oil zone will not sustain intensive drilling. The west end is now the hottest spot in California and completion of two good flowing wells this week is having a tendency to stimulate drilling. Most of the drilling is adjacent to wells completed within the past several weeks by Union Oil Co. on the Calkins and La Merced leases and recent completions by Wood-Callahan Oil Co. and Graham & Loftus.

In addition to taking legal action against operators in the Montebello field, the director of natural resources has also stepped into the Rosecrans and Dominguez fields in an effort to straighten out matters before taking drastic action. It is said the logical thing for operators in Montebello is to pool gas outlets and curtail crude production to that prescribed by the Central Committee. Several such offers have been made but none was accepted as this would entail reducing oil production to effect the reduction in gas production. If blowing gas to the air is stopped it will strengthen the refined oil market as this surplus crude is being reflected in the dumping of gasoline in a rather sensitive market.

Panhandle Gas Proration Bill Killed in House

AUSTIN, Tex.—A senate bill which sponsors claimed was necessary to permit proration in the Panhandle sweet natural gas area was killed by the house, 83 to 37. The bill was introduced by Senator Clint C. Small of Amarillo.

"This isn't a measure to prevent one operator from draining gas from underneath another man's property," said Representative Boyer. "Rather, it's a bill to divide the market. It would intensify drainage instead of halting it."

Market Demand for Gas in Otis, Kansas, Field

WICHITA, Kans.—A hearing to determine market demand for gas for June, July, and August from the Otis field of Rush and Barton counties and the Lyons field of Rice County will be held by the Kansas Corporation Commission in Wichita, June 12.

Second Large Girbotol Plant For West Virginia Gas Fields

Columbian Carbon Co., of Charleston, W. Va., has completed arrangements with Girdler Corp., Louisville, Ky., for the erection of a gas purification plant in Kanawha County, West Virginia. This plant, which will have a capacity of 30 million cubic feet of gas per

Refinery Expansion

Cosden's Graham Plant Nearing Completion

GRAHAM, Tex.—The first truck loads of gasoline from the new Cosden Refining Co. plant 4 miles southeast of Graham were hauled Tuesday afternoon, though the plant is not entirely completed. A caravan of trucks paraded through the business section of Graham before going to the plant for their first load.

When completed, the plant will represent an investment of approximately $75,000, including offices, laboratory facilities, warehouses and other buildings besides the refining plant.

It will have a daily capacity of approximately 1,000 bbl. per day of crude oil, and the absorption plant will utilize about 5,000,000 cu. ft. of gas per day. The plant will make about 500 bbl. of gasoline daily, which will be distributed by truck and tankcar to cities and towns within a radius of 100 miles.

Construction of the plant has been under the supervision of Elmer Potter, superintendent of the Cosden plant at Big Spring. Much of the material and equipment used in the new plant was brought from Big Spring.

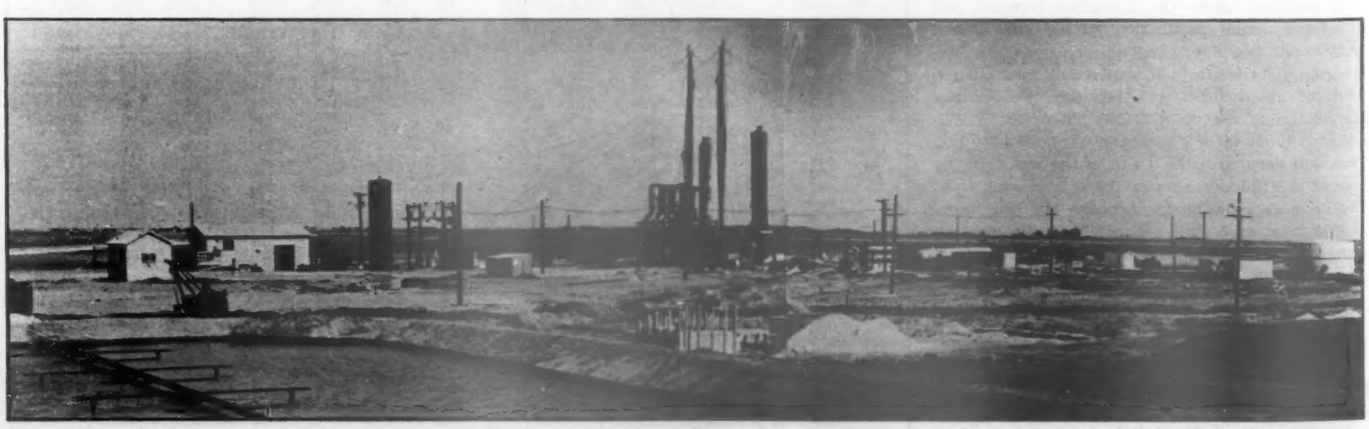
W.P.R.R. Will Hold Meeting At El Dorado, Ark.

The regular monthly meeting of the technical group of the Ark-La-Tex division of Western Petroleum Refiners Association is to be held on Friday, June 9, at the Randolph Hotel, El Dorado, Ark. C. G. Kreiger, agricultural engineer of Ethyl Gasoline Corp., will discuss fuels and lubricants for farm tractors. The meeting will be called to order at 4 p.m., and at the conclusion of the principal talk, there will be an open forum discussion.

Large quantities of petroleum products are used in farm tractors and in the field of agricultural development. Mr. Krieger, in his talk Friday, will point out the nature and extent of the farm market for petroleum products at the present time and will attempt to show what the potential market may be in the future. He will also discuss peculiarities of tractors and other types of farm machinery that are responsible for certain servicing problems.

Paluxy Asphalt Co. Plant Damaged by Fire

FORT WORTH, Tex.—The 5,000-bbl. refinery of the Paluxy Asphalt Co. at Talco, Tex., was destroyed by fire, critically burning a refinery workman. The fire started with an explosion in a flash tower in the 1,500-bbl. cracking unit of the plant, and rapidly spread through the refinery. Loss was placed at $100,000 by the owners, Eugene and Charles Constantine. Thirty-five thousand barrels of oil, stored nearby by the American Liberty Pipe Line Co., was saved from the fire.



Motor Fuels Corp., Levelland, Tex., refinery

day, will remove hydrogen sulfide from sour natural gas. Construction of the plant will be carried out by J. F. Pritchard & Co., Kansas City, Mo.

This is the second large Girbotol purification plant to be erected in the Charleston area, a 15 million cubic foot capacity plant now being under construction for the United Fuel Gas Co.

The Columbian Carbon Co. plant is expected to go into operation within the next two months.

Second Carbon Black Plant For the Hugoton Field

The second carbon black plant for Kansas is now under construction at Ryus, in the southwestern part of the state near the Hugoton gas field. United Producing Co. is building the plant. The only other plant in the state is the Columbian Peerless plant near Hikok.

New York-Pennsylvania Gas Field Operations

COUDERSPORT, Pa., June 5.—The major development of the past week in the Oriskany sand gas fields of northern Pennsylvania and southwestern New York was the completion of Empire Producing Co.'s well on the Nelson Kemp farm in Sharon Township, Potter County, which had an initial open flow of 30,000,000 cu. ft. and was the best completion to date in the area. It reached Onondaga at 4,764 ft, Oriskany at 4,807 ft., got the first gas show at 4,809 ft. and was completed at 4,818 ft. The rock pressure was 830 lb.

A second completion last week encountered salt water and was plugged, G. L. Cabot, Inc., test on the L. Highland farm in Greenwood Township, Steuben County. It topped Oriskany at 4,745 ft. and got a show of gas gaging 10,000 cu. ft. at 4,751 ft. but 1 ft. deeper encountered a show of salt water that increased and filled the hole up 150 ft.

Further discouragement resulted for Sharon Township operators at the New Penn Development Co. well on the E. J. Davis farm, about ½ mile northwest of proven limits. This test topped Onondaga at 4,869 ft. and Oriskany at 4,920 ft. At 4,921 ft. it found a show of gas gaging 500,000 cu. ft. per day, but it was accompanied by a show of salt water. It is now shut down at 4,922 ft.

Chief development of interest in New York operations was announcement of four new locations by New York State Natural Gas Co. This company is rigging up on the Arthur Whiting farm, Jasper Township; building rig on the John Hollis farm, Tuscarora Township; moving in on the Willis Carpenter farm, Troupsburg Township, and has a location on the Lester Gurnsey farm, Troupsburg Township, all in Steuben County.

The completion of the first well south of the fault in the Sharon Township, Potter County, Pennsylvania, Orsikany sand gas pool proved disappointing when the well had an initial of only 850,000 cu. ft. with a show of salt water. The initial rock pressure was 1,850 lb. This well, drilled by the New Penn Development Co. on the Dunshie farm, topped the Oriskany at 5,118 ft. and was completed at a total depth of 5,126 ft.

Other completions in recent days included the Ladd estate well of the New York State Natural Gas Co. in Bingham Township, Potter County. It had 2,000,000 cu. ft. per day in the sand which it drilled through, the bottom being at 5,204 ft. The well was completed at 5,205 ft. with a rock pressure of 635 lb.

The third completion was that of G. L. Cabot, Inc., on the Neva Husted farm in Woodhull Township, Steuben County. This well, completed at a total depth of 4,020 ft., had an initial open flow of 1,816,000 cu. ft., a 20-qt. shot just about doubling the flow. It found the Oriskany at 4,001-20 ft. and had an initial rock pressure of 255 lb.

Barges Transport Gasoline To Omaha, Nebraska

OMAHA, Neb. — Commercial transportation on the Missouri River to Omaha returned as the Diesel boat, Kansas City Socony, pushed two gasoline barges to the wharf here. Six other gasoline tows from Kansas City are expected in the next two months.

Pipe Line Activity

Sinclair Prairie Pipe Line Co.'s new 65-mile 6-in. carrier from the K.M.A. field of Wichita County, North Texas, to its main-line station at Hensley in Jack County has been completed and is being tested

Columbia-Panhandle Eastern Plan to Be Submitted

NEW YORK.—Columbia Gas & Electric Corp. will submit a new plan for divestment of its interest in Panhandle Eastern Pipe Line Co. to meet objections of the Department of Justice. If acceptable to that department, the plan will smooth the way for Securities and Exchange Commission approval of Columbia's application to be declared an integrated utility system under Section 11 of the public utilities holding company act.

The basis of the new plan was reported to be liquidation of the company's investment in Columbia Oil & Gasoline Corp., which controls Panhandle Eastern, through exchange of oil and gasoline properties and securities.

Such an arrangement might facilitate merger of Columbia Oil and Missouri-Kansas pipe line interests. The controvery over C.G.&E. control over Panhandle Eastern goes back to 1930, and was the subject of litigation in federal court at Wilmington, Del. This was the basis for Attorney General Murphy's intervention in the S.E.C. integration proceedings.

A collateral feature of the new plan, it is said, is the projected transfer of Michigan Gas Transmission Corp. to Panhandle Eastern, financed by a bond issue, thus removing 100 per cent owned Michigan Gas from the Columbia system.

United Gas Tests Power of Louisiana Commission

NEW ORLEANS, La.—A second gas pipe line company went into federal court here to oppose jurisdiction of the Louisiana Public Service Commission in a rate investigation whose cost assessed is against the company. United Gas Pipe Line Co., a Delaware corporation, filed a petition asking declaratory judgment and a permanent injunction to prohibit the commission from investigating and complaining that the costs assessed against companies investigated, $152,500 since March 10, 1938, was causing "irreparable damage" because the fees were not returnable.

Previously, in the federal District Court a restraining order pending hearing in June was granted in favor of the Interstate National Gas Co., Inc., to halt the state investigation of its rates.

United Gas stated it was ordered to submit its books and records to the state commission on February 16 for the fixing of rates. The company contended it was not a public utility, public service corporation nor a common carrier, but that it transported and sold natural gas under private contracts which primarily involved interstate commerce and therefore was not subject to jurisdiction of the state commission.

Panhandle Eastern Contract To Supply Ohio Towns

Panhandle Eastern Pipe Line Co. announces signing of a long-term contract to supply Ohio Gas Light & Coke Co. with all of its natural gas requirements in the Ohio towns of Bryan, Edgerton, Napoleon, Montpelier, Wauseon, Pettisville, Archbold and Stryker and part of the requirements in Delta.

Delivery under the contract is expected to begin within 2 weeks. The contract runs to December 31, 1951, and will continue after that date until 12 months' notice is given by either party.

Natural Gasoline

Long Lake Recycling Plant To Be Doubled in Capacity

DALLAS, Tex.—Plans for doubling the capacity of their new recycling plant now under construction in the Long Lake field of Anderson County, eastern Texas, were announced last Saturday by Tide Water Associated Oil Co. and Seaboard Oil Co. As now being built the plant would handle about 25,000,000 cu. ft. daily, so that the change in plans will step it up to around 50,000,000 cu. ft. capacity.

Graham Plant Moved To James Field

WICHITA FALLS, Tex.—Graham Oil & Gasoline Co. is dismantling its 8,000-gal. capacity natural gasoline plant located on the Morrison farm, Young County, North Texas, and moving it to the James field, Young County, where it will be reerected. The plant had been shut down for a short time prior to its being moved. This will be the James pool's first gasoline plant.

New Appeasement Offered Business

By HENRY D. RALPH

WASHINGTON, D. C., June 5.—Another attempt to remove some of the friction between business and Government and to speed the wheels of industry is being made by the administration. Present plans are not nearly so sweeping as outlined for the program of last January and involve little more than a few gestures toward business without any serious concessions in New Deal policies.

Developments of the past week included a White House dinner to eight prominent business men, a start toward corporation tax revision, and a new plan to provide more credit to smaller business enterprises.

Considerable mystery surrounds the dinner to eight members of the Business Advisory Council of the Department of Commerce. Because the president was suffering from a cold, the group met with him for little more than an hour, and the discussion covered a wide range, presumably only superficially, and there is no evidence the group reached any agreement between New Deal policies and the desires of business.

Now that Secretary Hopkins has largely recovered from an illness of several months he has resumed his plans for making the Commerce Department of wider use to business. With the department's foreign service going over to the State Department on July 1, more emphasis will be placed on the domestic end. The secretary is working toward the old plan of turning the Bureau of Foreign and Domestic Commerce into a Bureau of Industrial Economics to do for business something like what the Bureau of Agricultural Economics does for agriculture, forecasting business trends, studying marketing problems, advising on price and production policies, and possibly serving as a sort of super economic planning agency. Pending legislation to bring about this change completely, Secretary Hopkins is planning a series of conferences with industry groups to see if he and his staff can be of assistance in solving current problems, either of an intra-industry nature or involving relations with Government. There are no very definite plans yet, but it is hoped to make the department a sort of father confessor to business and to have it serve as an intermediary with federal regulatory agencies, including the Department of Justice. The recent conferences that department officials held with West Coast oil men concerning the pending Los Angeles grand jury investigations was a start in this direction, although as far as can be learned it was not notably successful.

Tax Revision Proposals Up to Congress

After months of jockeying between the White House, the Treasury, and Congress, the work of revising corporation taxes was started last week by the House committee on ways and means, but a fight immediately developed over the scope of this revision. Secretary Morgenthau presented the treasury's view that a moderate tax revision at this time will remove some of the irritants and inequalities of the federal revenue system, but he advised against a sweeping revision of all tax laws at this session and insisted the Government's revenue be maintained at its present level. The indications were the committee would follow this program, and Chairman Doughton announced hearings would be closed after a couple of days and no consideration would be given to any changes in the excise tax schedule. This precipitated a row within the committee, as many members want some of the present excises to expire while others want to add new ones, particularly in excise taxes on imported products. At present, however, there is every indication the present schedule of taxes on gasoline, lubricating oil, and other products will be continued beyond their expiration date of June 30, probably for another 2 years.

Spokesmen for business interests generally endorsed Secretary Morgenthau's recommendations, although desirous of a more general revision, and the expectation is they will be approved by the House virtually as presented. In the Senate, however, there may be more extensive hearings and a more general rewriting of the revenue laws, even though this permits the excise taxes to lapse for a short time or continuing them for a few months while the general bill is under consideration. The main features of the Treasury's proposal are permitting a corporation to carry over losses from one year against profits in succeeding years, eliminating the undistributed profits tax, and making adjustments in the capital stock and excess profits taxes. To the extent that these changes reduce the yield, however, the committee must find additional sources of revenue and this may involve an increase in the corporation income tax rate, possibly to 18 or 19 per cent. Incidentally, Secretary Morgenthau declared that when the time comes for a general overhauling of the federal tax structure, "we should endeavor to minimize the use of manufacturers' excises and other commodity taxes which tend to be shifted directly to consumers, putting the em phasis on taxes based on ability to pay." This may be an opening for eventual elimination of the federal gasoline and lubricating oil taxes.

Small Business Loans Under Consideration

Under the urging of administration officials the Senate committee on banking and currency is rushing consideration of bills to provide more capital and credit to smaller business concerns. Most favored is the Mead bill under which the Reconstruction Finance Corporation would insure commercial banks up to 90 per cent against losses on loans of less than $1,000,000 to provide long-term credit to business. Interest rate would be 4 per cent, plus service and insurance charges. Many bankers and some government officials have expressed doubt such legislation would be much of a business stimulant, pointing out that a bank would not make a risky loan if it faced the possiblity of a 10 per cent loss, and the R.F.C. would have to impose regulations which might be as difficult to meet as the requirements of most banks. Critics of the plan contend that what business needs is "risk capital" supplied by individuals willing to take a chance in the hope of profits but that such capital is kept out of productive channels by fear of tax and regulatory policies. Nevertheless, the administration apparently is determined to give this plan a trial in the hope of improving business conditions before the next political campaign.

Interstate Oil Compact To Be Extended

Congressional approval of a 2-year extension of the interstate oil compact is expected to be recommended by President Roosevelt and approved by Congress before the end of the session. A delegation representing the Interstate Oil Compact Commission called at the White House last week and left a memorandum with the president. The delegation consisted of Col. Ernest O. Thompson of Texas, former Gov. W. J. Holloway of Oklahoma, Lt. Gov. Hiram Dow of New Mexico, Senator Elmer Thomas of Oklahoma, Representative Lyle H. Boren of Oklahoma, George A. Hill, Jr., of Houston, Charles Orr of Oklahoma, and Russell B. Brown of the Independent Petroleum Association of America.

Col. Thompson, noting that Michigan has joined, added two more oil-producing states are expected to sign the compact in the very near future.

Secretary Ickes still thinks the compact is good window-dressing. He says the compact has not achieved much in the way of oil conservation, but it is all right as far as it goes. He said he had never considered a coordinated plan for federal control of both the coal and the oil industries; that the problems of the two industries are different and he could not say he is in favor of such a plan.

Alky-Gas Proposal Awaits Action by House

Hearings on the proposal to remove the federal gasoline tax from motor fuel blends containing alcohol made from farm products have been completed by the Senate finance committee, and no other action is expected until this committee considers a general tax revision bill which must first be framed by the House committee on ways and means and passed by the House. It is very unlikely the House bill will contain any provision for subsidizing alky-gas.

The final witness before the Senate committee, Dr. P. Burke Jacobs, of the Industrial Farm Products Research Division of the Department of Agriculture, and author of the departmental publication on "Motor Fuel From Farm Products," characterized the proposal as premature, urging further research before any legislation. He disclosed that the research laboratory which the department is now constructing at Peoria, Ill., will include a small pilot plant to produce 100 gal. per day of alcohol from farm products to obtain information on probable costs of various farm products as a raw material and on the technical efficiency of alcohol blends as a fuel. He also pointed out an alcohol gasoline industry must be set up on a national basis to be effective since variations in the prices and available quantities of farm products and waste products would prevent local plants from operating effectively year after year without large fluctuations in the cost of alcohol.

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United States Supreme Court to Review Madison Decision

WASHINGTON, D. C., June 5.—The Government was granted a Supreme Court review Monday of the Circuit Court decision that federal District Judge Patrick T. Stone was empowered to dismiss indictments and grant new trial in the Madison, Wis., oil price-fixing cases.

The Government appealed from the seventh federal Circuit Court in its effort to compel the judge in the western Wisconsin federal District Court to vacate his orders dismissing the indictments of 11 defendants and granting new trials to 18 others. The price-fixing trial opened October 1937 before Judge Stone. It involved 25 of the nation's major oil companies.

At the close of the evidence the defendants filed motions for directed verdicts, which later were denied. The jury then returned verdicts of guilty against 16 corporations and 30 individuals, all of whom moved to dismiss the indictments and set aside the verdicts.

Judge Stone set aside the verdicts and dismissed the indictments as to 11 defendants on the ground there was no substantial evidence to sustain the verdicts. He granted the new trials to 18 other defendants.

The Government contended the court's action in affirming Judge Stone "is the first in the federal courts to hold that a federal trial court has the power, either in a civil or a criminal case, independently of a statute, to enter a judgment notwithstanding the verdict." The case will be argued at the next term in the fall.

Danville Grand Jury Hearing Upheld by Judge Lindley

DANVILLE, Ill., June 5.—Federal Judge Walter C. Lindley overruled motions to quash the grand-jury investigation of oil companies involved in the Department of Justice gasoline price-fixing inquiry here.

The companies, Globe Refining, Texas and Tide Water Associated, were reported planning to appeal from Judge Lindley's decision. Meanwhile the new grand jury was summoned to begin work.

Frank L. Chase Resigns: E. F. Schmidt Successor

DALLAS, Tex., June 5.—The retirement of Frank L. Chase as vice president of Lone Star Gas Co. was announced Monday in the Dallas Gas Co. auditorium at a testimonial luncheon in his honor. Elmer F. Schmidt, vice president, has been appointed operating manager in charge of production and transmission.

Mr. Schmidt was given charge of the gas measurement department when he joined Lone Star Gas Co. in 1918. In 1919 he became chief engineer and was made general superintendent of the company in 1920. He was elected to the board of directors in May 1935 and was then elected vice president.

As a token of appreciation for Mr. Chase's 22 years of service, a watch was presented to him from his associates. The presentation was made by L. B. Denning, president of the company, who presided.

Mr. Denning outlined Mr. Chase's activities with the company, pointing out that he had been an outstanding figure in the nation's gas business for 38 years. As vice president and operating manager for Lone Star he supervised the production, pipe line, compressor and telephone departments.

Speakers at the luncheon were Mr. Denning, D. A. Hulcy, executive vice president; R. A. Crawford, vice president; D. L. Cobb, secretary-treasurer of Lone Star Gas Co.; Chester L. May, vice president and operating manager of Community Natural Gas Co., and Mr. and Mrs. Chase.

Harris, Upham & Co. Acquires Francis, Bro. & Co. Brokerage

Harris, Upham & Co. is acquiring June 15 the brokerage business in securities and commodities of Francis, Bro. & Co., in Tulsa. The office of Harris, Upham & Co. in Tulsa resulted from a merger of the business previously conducted as McGreevy & Co., and Strandberg, McGreevy & Co., which opened in Tulsa in 1917, the oldest brokerage firm in the city.

Francis, Bro. & Co. is disposing of the brokerage end of its business to concentrate on the investment banking business in Oklahoma. Francis, Bro. & Co. will continue its Tulsa investment banking office under the management of Evan L. Davis. With Mr. Davis will be associated Joseph A. Shea and R. B. Ewin. Mr. Davis has been in this business in Oklahoma for 20 years and since 1927, in Tulsa.

Harris, Upham & Co. is an outgrowth of firms founded by John F. Harris in 1892. Mr. Harris continues the senior partner. His two sons are active partners. The firm has 22 offices and operates a wire system from coast to coast and from Oklahoma City to Milwaukee. The operations of the firm in Tulsa and the Southwest are under the supervision of Milton W. McGreevy, a partner residing in Kansas City. The Tulsa office will be under the management of P. R. Dixon and R. J. Denyven.

Obituaries

E. C. CONKLING, 84, former manager of the Detroit sales division of Standard Oil Co. of Indiana, died June 4 at Miami, Fla.

WILLIAM MILTON LAMBETH, 56, retired oil operator, died at his home in San Anotnio May 30. He formerly was active in North Louisiana fields.

HENRY VERNON FOSTER, 63, president of Foster Petroleum Corp., Bartlesville, Okla., and for 30 years until May 8, 1935, when he resigned, president of Indian Territory Illuminating Oil Co., died in Los Angeles June 5. His father, Henry Foster, a Rhode Island banker, moved to Kansas in 1862 and after some small oil wells had been drilled around Neodesha became interested in oil. H. V. Foster was born in Westerly, R. I., and was educated in Pennsylvania, London, England, and Columbia University. His uncle, Edwin B. Foster, having secured the famous Osage blanket lease in Osage County, Oklahoma, they formed the Phoenix Oil Co. in 1897 and 2 years later the Osage Oil Co., H. V. Foster being treasurer of both. The companies were consolidated in the Indian Territory Illuminating Oil Co. in 1902 with H. V. Foster as president. The company was largely responsible for the development of the Seminole and Oklahoma City fields.

H. V. FOSTER

B. H. HARRISON, treasurer of Taylor Refining Co., Taylor, Tex., for the past 10 years and formerly connected with oil companies in Tulsa, died June 2 at Taylor.

JOHN O'HARROW, 84, pioneer oil man of Schleicher County, West Texas, died May 31, on the eve of the opening of an oil field in the area in which he had spent years searching for oil.

CHARLES A. DAILEY, 59, superintendent of production in the southern California district for Standard Oil Co., died recently. He moved to California 30 years ago from his native Bluffton, Ind., and started as a helper in the Taft district.

GALE R. NUTTY, 68, a leading figure in the oil industry for three decades, died in Pittsburg, Pa., May 31. He retired in 1935 as director and a vice president of Gulf Oil Corp., which he joined in 1902 as general sales manager. From 1929 to 1935 he was president of Gulf Refining Co.

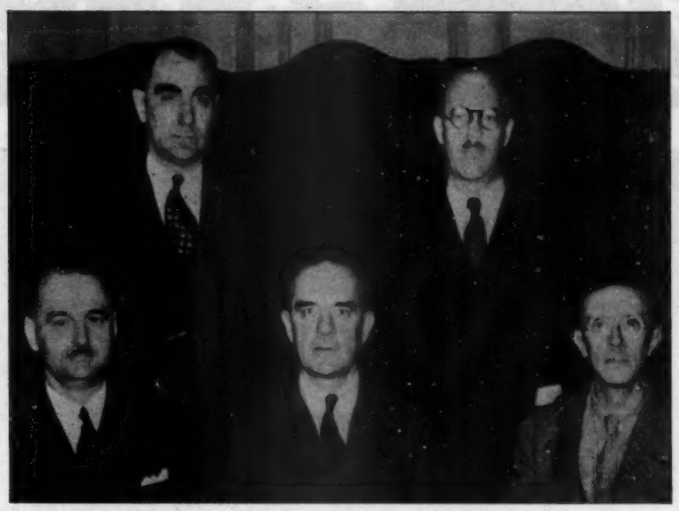
JOHN S. BONNER, pioneer Texas oil man, died at his home in Houston, Tuesday, May 30. He retired from active service as vice president of Humble Oil & Refining Co. in 1933. In 1896 he joined the Joe W. Davis Oil Co. Later he and his brother, B. F. Bonner, purchased the firm and called it the Southwestern Oil Co. They sold out to Houston Oil Co. and Bonner opened business under his own name, subsequently merging his firm with others into the Humble Oil & Refining Co. in 1919.

CHARLES ROYAL BUTLER, 52, died recently in Long Beach. He was born in Reynoldsville, Pa., and began his oil career at Santa Maria, later joining Shell Oil Co. as drilling superintendent. He was a member of the Yowell gang which fought many well fires in Long Beach and Santa Fe Springs. He was co-inventor of the Trout-Butler-Rasmussen control head. For 12 years he had been president of Signal Petroleum Co. and also president of Numac Oil Co., Weber-Butler Oil Co., and Butler Sump & Tank Service.

WILLIAM MURPHY, oldest employe in point of continuous service of the Sinclair Refining Co. pipe line department, died May 24 in Kansas City, Mo. Born in East Randolph, N. Y., March 19, 1860, he entered the service of National Transit Co. January 10, 1880, and was subsequently employed by New York Transit Co., Buckeye Pipe Line Co., Indiana Pipe Line Co., and other oil companies affiliated with the Standard Oil group, finally removing to Kansas and entering the service of Prairie Oil & Gas Co. May 1, 1904, continuing as tour engineer and later as foreman, until transferred to Prairie Pipe Line Co. February 1, 1915. On May 1, 1917, he was promoted to chief engineer and three years later to general foreman. In 1922 he was promoted to general line foreman of the entire northern division, continuing until health necessitated less arduous service. The company's work report epitomized his career "All jobs well done; 59 years, 4 months and 13 days."

San Francisco Plays Host to Automotive Engineers Gathered For World Congress

See Pages 57-58 for abstracts of technical papers given at meeting



Back: Dr. A. E. Becker, Standard Oil Development Co., and Neil MacCoull, Texas Co. Front: G. L. Neely, Standard Oil Co. of California and chairman of the Pacific Coast section of the S.A.E.; A. G. Marshall, Shell Oil Co., and A. Ludlow Clayden, Sun Oil Co.

SAN FRANCISCO, Calif., June 7.—Aircraft engines, their fuels and motor oils occupied the featured position during the three final days of the first World Automotive Engineering Congress ending in San Francisco June 3. This world congress, one of the most ambitious activities ever sponsored by the Society of Automotive Engineers, was launched in New York nearly three weeks ago with technical sessions continuing from May 22 to May 26. From New York, the group of automotive and petroleum engineers went by special train to Indianapolis for the Memorial Day race and continued to Detroit where factories and facilities of Ford Motor Co., General Motors Corp., and Chrysler Corp. were visited.

The final technical sessions were opened at San Francisco June 6. G. L. Neely, Standard Oil Co. of California, chairman of the northern California section of the S.A.E., presided at the opening session and as toastmaster at the banquet.

The first day was concerned chiefly with phases of transportation and maintenance, the speakers including executives and engineers from public utility companies. The operation and maintenance of fleets of small cars and light trucks dealt only indirectly with motor fuels and lubricants. Most speakers called attention to the economies of motor fuel and motor oil consumption made possible by frequent inspection and adequate maintenance.

Aircraft Fuels

At the Wednesday morning session on aircraft engines, F. R. Banks, Associated Ethyl Co., Ltd., of London, delivered a paper on "Aviation Fuels and Engines," reviewing, as far as possible, the status of foreign aviation power units and their motor fuel requirements. In Great Britain, Mr. Banks reported that 87-octane motor fuel is the standard in use for high-duty British engines. Engine manufacturers are being encouraged by the British Air Ministry to develop units capable of utilizing 100-octane fuel but these experiments have not advanced to a stage of discussion.

Thursday morning's session embraced a symposium on fuels and lubricants, presided over by A. G. Marshall, Shell Oil Co., vice president of the S.A.E. D. P. Barnard, Standard Oil Co. of Indiana, was technical chairman.

Dr. A. E. Becker, Standard Oil Development Co., presented a paper describing a system of controlling knock-rating tests in widely separated laboratories. The system involves predistribution of samples and a uniform schedule of tests with provisions for averaging and correlating results. Methods by which affiliated and subsidiary companies of the Standard Oil Co. of New Jersey group correlate their motor fuel knock tests in 26 scattered laboratories were described. The first requisite in obtaining reproducibility in knock-testing throughout the petroleum and automotive industries as a whole is a well written method of procedure. A second requisite of equal importance is the use of standardized engines, auxiliary equipment and reference fuels, which in practice is a matter of obtaining the first two from the recognized manufacturer and of using secondary reference fuels that have been calibrated in accordance with the method by a large number of independent laboratories.

A definite program of testing check samples periodically has been found to be most helpful. It has the advantages of speed, of simultaneously checking the laboratories of all participants and of calling attention to misinterpretations or departures from the method, whether they be in an outlying laboratory or in the central control laboratory. A periodic check sample program launched among a group of laboratories in Canada and the United States in 1929 has been materially broadened and extended. At present 26 laboratories in 11 countries are participants. To overcome certain difficulties the program was revised in 1938. A schedule of test fuels, numbered consecutively, is prepared for the entire year and forwarded to all laboratories. Dates for testing the individual samples are given and a reminder letter states in detail the ratings and engine data desired.

To obtain a good picture of the accuracy of a laboratory's work, it is desirable that check samples be tested by the operators without their knowing they are rating such samples. The superintendent in charge is requested to send the sample through as a routing refinery sample, either by replacing the original tag or transferring the contents to the regular laboratory sample container.

Complete reports of the tests are forwarded to the participating laboratories showing their respective deviation from control curves and averages. At the end of each year a summary table is forwarded to each laboratory showing the individual deviations of each engine for the year, together with its average deviation.

A. J. Blackwood and Dr. G. H. Cloud, Standard Oil Development Co., presented a paper on "Diesel Fuel Characteristics Influencing Power and Economy." The authors came to the conclusion that Diesel engine design may be improved to use a wider variety of fuels of heavier grade than currently demanded to the economic advantage of the consumer.

C.F.R. Shrouded Value

In a discussion of the C.F.R. shrouded valve by Neil MacCoull, of Texas Co., the conclusion was reached that the effect of changes in turbulence, caused by turning the valve, results in appreciable differences in compression ratio for audible knock, heat losses from combustion, the sensitivity of the thermal plug or bouncing pin as detonation indicators, cyclic variations and may also cause important differences in the antiknock ratings of fuels. Further work was anticipated along several lines with the following four suggestions:

1. Additional runs with changed spark plug locations.

2. Oscillograph studies of the rate of pressure rise, as well as of the presence of detonation.

3. Runs to determine if sufficient changes in volumetric efficiency result from shroud position, to account for some of the characteristics found.

4. Considerable study of the effect of shroud position on knock ratings of fuels.

Cooperation between the automotive, petroleum, steel, and rubber industries to make the modern automobile possible was reviewed by A. Ludlow Clayden, experimental engineer, Sun Oil Co. In a second part, William S. Canning, engineering director, Keystone Automobile Club, visualized super-highways which would eliminate cross traffic and connect the main centers of the country with spurs to adjacent points.

A paper by J. R. Sabina, petroleum chemicals testing laboratory, E. I. du Pont de Nemours & Co., discussed the possibilities of controlling crankcase oil oxidation by addition agents. Present knowledge of the art indicates one of the most satisfactory methods of accomplishing this is to counteract the effect of catalysts on the oil.

The technical program ended with another session on fuels and lubricants studied from the standpoint of the automotive engineer. Papers were presented on piston ring coatings and their effect on ring and bore wear, the wear of crankshafts with "lead-bronze" bearings and bore wear from the viewpoint of materials. L. J. Grunder, Richfield Oil Corp., presided.

Socony Vacuum Oil Co. Uses S&J Spheroid Fitting

Shown here is an 80,000 barrel Hortonspheroid at the river terminal of the Socony Vacuum Oil Company at Bettendorf, Iowa. This tank is 132′ in diameter at the equator and is 40′ high. It is used for gasoline storage at 2½ pounds per sq. in. pressure.

This Hortonspheroid is equipped with an S. & J. Automatic Compensating Type Tank Gauge; a pressure regulating valve; an instrument lock for taking samples and temperature readings; and a locking type, gas tight gauge hole cover.

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Hortonspheroid at the Socony river terminal at Bettendorf, Iowa

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INTERNATIONAL

Chilean Government Is Seeking Control Of Oil Holdings

Direct access to another South American market may be closed to United States and other foreign oil companies if negotiations now pending in Chile are carried to the conclusion sought by the government. Negotiations are pending for government purchase of holdings and distribution systems of all foreign oil companies for an amount estimated at $5,000,000. Press associations and special correspondents reported from Santiago last week that negotiations are nearing completion. Principal companies to be affected will be the Standard Oil Co. of New Jersey subsidiary, West India Oil Co., and British Shell-Mexican. A government spokesman said that about $2,000,000 would be the portion of the settlement total accruing to United States companies.

It was reported in one quarter that foreign oil companies are trying to obtain a "grace period" of 2 years or more during which they could wind up their business affairs. A similar "grace period" was sought and obtained in Argentina when the government of that country considered summary expulsion of all foreign oil companies.

Agitation for Chilean Government monopoly of the oil importing and marketing business in Chile has flared and subsided for several years. In fact, a decree was issued late in 1936 scheduled to make the monopoly effective January 1, 1937, but an extension of 4 months was granted and finally dropped temporarily.

Preparation and preliminary construction on a new refinery was started and abruptly halted by the West India Oil Co. about a year or 18 months ago when the government again made gestures at establishment of a monopoly. Chile has made extensive efforts to develop crude oil production within its borders. The government has spent upwards of $3,000,000 during the past 10 years mostly in the Magallanes district on exploratory efforts. The exploration campaign has been entirely unsuccessful from a commercial standpoint although small showings have been developed in several test wells. Chile is a comparatively small consumer of petroleum. The country has only about 25,000 passenger cars in operation and approximately half that number of commercial vehicles. The country consumes approximately 2,500,000 bbl. of crude oil annually, 75 per cent of which is supplied by the United States. Diesel fuel consumption ranges around 400,000 bbl. and gasoline imports total approximately 750,000 bbl. annually.

Iraq Petroleum Co. Reported Acquiring Additional Area

Iraq Petroleum Co., jointly owned by British and American oil companies, has acquired additional territory in Iraq for exploitation. Details of the new territory awarded to Iraq Petroleum Co. have not been made public but was thought to be in the southern part of the country as near as possible to the independent kingdom of Kuwait where Anglo-Iranian Oil Co. and Gulf Oil Corp. have proved existence of a substantial crude oil reserve.

As a consideration for award of the concession, among other things, the Iraq Petroleum Co. loaned the Iraq Government £3,000,000, about $14,500,000, against future oil royalties. Since Iraq Petroleum operates the Kirkuk field, security of the loan is not dependent upon the potentialities of the new concession acquired.

Two Italian Plants To Supply Aviation Fuel Requirements

The two hydrogenation plants completed last year by Azienda Nazionale Indrogenazione Combustibili at Bari and Leghorn, Italy, processed a combined total average of 7,000 bbl. of crude daily during the last half of 1938 and about 40 per cent of their throughput originated in Albania. This information was contained in a report submitted to Premier Mussolini and transmitted by United States trade attaches in that country. The report stated that the Bari plant is producing a quantity of gasoline with a high octane content of a quality which fully meets the demands of civil and military aviation. The report continues that the Bari plant is expected to soon produce sufficient quality gasoline to cover the entire needs of Italian aviation.

Azienda Generale Italiana Petroli started work in 1938 on its laboratory for the technical and scientific study of petroleum in Rome. The laboratory and expansion of facilities in Italian East Africa, including completion of a large warehouse at Massaua, construction of other warehouses at Magadiscio and Assab, were listed as the major activities of A.G.I.P. during the year. The company completed installation of 40 bulk plants and 150 service stations in the interior of Italian East Africa.

Germany Expands Synthetic Motor Fuel Production

A substantial expansion of Germany's synthetic motor fuel production is expected this year and in 1940. During 1938, Germany is credited with production of 1,300,000 metric tons, about 10,400,000 bbl. of synthetic motor fuel. The synthetic output in 1938 was furnished in about equal parts by three principal groups of producing plants, namely, the Leuna works at Merseburg, operated by I. G. Farbenindustrie A.G.; four plants of the Braunkoheln Benzin A.G., situated at Bohlen, Madgeburg, Zeitz, and Schwarzheide, all in Central Germany; and a number of smaller plants in the Ruhr district (such as the plant of the Ruhr Chemie A.G., at Holten, that of the Krupp company at Bochum, the Wintershall plant at Rauxel, and plants of the Rheinpreussen Co.

Several of the plants were in operation only a part of 1938 and with their facilities used to capacity this year the combined output should show a considerable increase.

In addition to the plants already in operation more plants are now under construction or will be started soon for producing synthetic gasoline in Greater Germany. The I. G. Farbenindustrie A.G., recently announced it would start construction of a new hydrogenation plant at Politz, north of Stettin, which will be operated by the Hydrierwerke Politz A.G. Plans have also been drawn for construction of additional synthetic plants in Austria and Sudetenland based upon deposits of lignite situated in those areas.

For supplying its increasing capital requirements for developing production of synthetic gasoline plants, Braunkohlen A.G., March 1939 increased its share capital by 25,000,000 to 125,000,000 marks. Braunkohlen A.G. is a joint cooperative company established in 1934 under government auspices with capital furnished by companies producing lignite in Central Germany. Of the company's four synthetic plants, three, namely those at Bohlen, Madgeburg, and Schwarzheide, were in operation in 1938, but the fourth plant, at Zeitz, is still under construction. All four plants are based upon lignite as raw material. The plants at Bohlen, Madgeburg, and Zeitz use the I. G. Bergius high-pressure hydrogenation process and consume low-temperature lignite, coke and granular lignite coke, while the plant at Schwarzheide operates the Fischer-Tropsch gas-synthesis process and consumes lignite briquets and crude lignite.

Netherlands East Indies Production Up Nine Per Cent

Crude oil production from the Netherlands East Indies amounted to 14,550,835 bbl. during the first 3 months of 1939, an increase of 1,279,335 bbl., or about 9 per cent, over the first quarter of the preceding year. The production in the first quarter of the current year was 17,725 bbl. below the output for the last 3 months of 1938, more than accounted for by the brevity of February.

District—	1st quarter 1938	4th quarter 1938	1st quarter 1939
Java	1,909,015	1,600,025	1,594,890
North Sumatra	1,716,795	1,908,090	1,771,700
Palembang	4,851,270	5,405,580	5,535,985
Djambi	1,771,870	2,114,630	2,215,690
East Borneo	1,893,715	1,936,660	1,839,860
Tarakan	1,418,180	1,457,985	1,432,990
Ceram	160,655	145,580	159,720
Total	13,721,500	14,568,560	14,550,835

Dominican Seaboard Planning First Test Before End of June

Dominican Seaboard Oil Co. is planning to spud its first test in the Central American republic by the latter part of June. A boat load of heavy-duty drilling equipment was due to arrive in Santa Domingo June 10. The test is to be drilled by Allen and Morris of San Antonio.

Programs and Meetings

A.S.T.M. Annual Meeting Program June 26 to 30

In the 22 technical sessions (including several round-table discussions) at the forty-second annual meeting of the American Society for Testing Materials at Chalfonte-Haddon Hall, Atlantic City, June 26 to 30, inclusive, there will be upwards of 110 technical papers and reports covering important topics in the field of standardization, research, and testing of engineering materials.

Among important items are the annual address by Pres. T. G. Delbridge, whose subject is "Glimpses at Petroleum," and the fourteenth Edgar Marburg Lecture to be delivered by Prof. H. F. Moore on "Stress, Strain and Structural Damage." For many years manager of the research and development department of Atlantic Refining Co., Doctor Delbridge has taken a leading part in technical developments in the test and refining of petroleum products. His address will cover some of the newer developments.

H. P. Moore, professor of engineering materials, University of Illinois, will point to many kinds of structural damage and indicate in some phases at least the complicated structure of materials.

Throughout the week the fifth exhibit of testing apparatus and related equipment will be in progress. The exhibit to open at noon Monday will include testing apparatus and related equipment, measuring and recording instruments, laboratory supplies and related scientific instruments.

There will also be in progress the second A.S.T.M. photographic exhibit and competition on "testing and research in engineering materials." A separate section is devoted to photomicrography, under the auspices of the Committee E-4 on metallography.

The first formal session is scheduled for 10:30 o'clock, Tuesday morning, June 27. Monday will be devoted to committee meetings, which will continue through the week. On Tuesday afternoon there will be a session on iron, including papers on cast iron and malleable iron castings.

The fifth session, Wednesday morning, is devoted to paper, plastics, rubber, glass and electrical insulating materials. This session runs concurrently with one on fatigue and corrosion, there being four items dealing with fatigue and five covering corrosion. The latter includes the report of Committees A-5 on corrosion of iron and steel and B-3 on corrosion of nonferrous metals and alloys. The B-3 report is important because it is expected to give the results of tests of galvanic couples after exposure of 7 years at nine test locations representing various atmospheric conditions. Extensive data will be presented on some 20 different metal combinations. The committee will display in the fifth exhibit of testing apparatus and related equipment actual samples of corrosion-test specimens which have been on exposure.

On Wednesday afternoon there will be a session on coal, petroleum products and gaseous fuels. Those concerned with gaseous fuels will be interested in the report of Committee D-3 on gaseous fuels and the two technical papers covering the determination of organic sulfur in gas mixtures by the catalytic hydrolysis method and recent experiments on laboratory wet-gas meters.

The twelfth session on Thursday morning covers steel, ferro-alloys, and effect on temperature. Two other sessions run concurrently—one on bituminous materials and road materials and the other round-table discussion on quantitative spectography which is intended to cover the fundamental methods and technique of spectrography.

International Conference of Mechanical Engineers

For the first time in 35 years, except for a short visit in 1932, the Institution of Mechanical Engineers of Great Britain is coming to the United States this fall, September 4 to 8, to meet with the American Society of Mechanical Engineers. The two societies of mechanical engineers will be joined by the Institution of Civil Engineers and the Engineering Institute of Canada meeting with the American Society of Civil Engineers.

The technical program, by agreement with the Institution of Mechanical Engineers, is to be devoted to the mechanical problems of modern transportation.

Annual Field Conference of Kansas Geological Society

The Kansas Geological Society announces its thirteenth annual field conference to be held in southern Illinois and eastern Missouri, August 30 to September 3, inclusive. This conference is being held with the cooperation of the State Geological Survey of Illinois, the Missouri Geological Survey and Water Resources, and the Illinois Geological Society.

The primary purpose will be to study the pre-Pennsylvanian rocks of southern Illinois and southeastern Missouri. On the Illinois side, the conference will concentrate upon the Mississippian and Siluro-Devonian rocks. In Missouri, attention will be given to the Ordovician, although some time will be spent on the Siluro-Devonian and Mississippian rocks. Of exceptional interest to Gulf Coast geologists will be a short trip to the northern tip of the Mississippi embayment where excellent exposures may be seen of the contact of the Upper Cretaceous with the Paleozoic rocks as well as the contact of the lower Eocene with the Upper Cretaceous.

Dr. H. A. Buehler, state geologist of Missouri, and Dr. M. M. Leighton, chief of the State Geological Survey of Illinois, will act as directors of the conference. Dr. J. Marvin Weller, geologist and head of areal and engineering geology division of the Illinois Geological Survey, will be the leader of the trip in Illinois. H. S. McQueen, assistant state geologist of the Missouri Geological Survey, will have the leadership in Missouri. The conference will convene at East St. Louis, Ill.

Meier Heads A.P.I. Committee

W. H. Meir, Atlantic Refining Co., Dallas, Tex., has been appointed chairman of the American Petroleum Institute Central Committee on District Activities by George A. Hill, Jr., chairman of the General Committee of the Division of Production.

CALENDAR

June

INTERSTATE COMPACT COMMISSION, Santa Fe, N. M.

PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION, Pittsburgh, Pa. June 15-16.

AMERICAN SOCIETY FOR TESTING MATERIALS, forty-second annual meeting, Chalfonte Haddon Hall, Atlantic City, N. J., June 26-30.

THIRTEENTH INTERNATIONAL CONGRESS OF CARBIDE, ACETYLENE, OXYACETYLENE WELDING AND ALLIED INDUSTRIES, Munich, Germany, June 25-July 1.

July

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, regional meeting, San Francisco, Calif., July 10-17.

August

MICHIGAN OIL AND GAS EXPOSITION, Mount Pleasant, Mich., August 1-6.

September

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, New York, September 4-8.

OIL WORKERS INTERNATIONAL UNION, Hammond, Ind., September 5.

AMERICAN CHEMICAL SOCIETY, Boston, Mass., September 11-15.

MONTANA NATIONAL BITUMINOUS CONFERENCE, Sun Valley, Idaho. Sept. 11-14.

NATIONAL PETROLEUM ASSOCIATION, 37th annual meeting, Hotel Traymore, Atlantic City, N. J., September 13-15.

October

AMERICAN GAS ASSOCIATION, annual convention, New York, October 9-10.

FORTIETH ANNUAL NATIONAL AUTOMOBILE SHOW, Grand Central Palace, New York. Oct. 16.

NATIONAL TAX CONFERENCE, Palace Hotel, San Francisco, Calif. Oct. 16.

NATIONAL SAFETY CONGRESS AND EXPOSITION, Chalfonte Haddon Hall, Atlantic City, N. J., October 16-20.

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, tenth annual meeting, Fort Worth, Tex., October 18-20.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, Los Angeles, Calif., October 19-20.

November

NATIONAL MOTOR TRUCK SHOW, Navy Pier, Chicago. Nov. 8-16.

AMERICAN PETROLEUM INSTITUTE, twentieth annual meeting, Stevens Hotel, Chicago, November 13-17.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, Providence, R. I., November 15-17.

December

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Philadelphia, Pa. Dec. 4-7.

May 1940

INTERNATIONAL PETROLEUM EXPOSITION. Tulsa, Okla., May 18-25.

June

THIRD WORLD PETROLEUM CONGRESS, Berlin, Germany. June 9-15.

ENGINEERING and OPERATING

In This Issue

JUNE 8, 1939

USE OF ORIFICE TYPE METERS IN CRUDE OIL PIPE LINE SERVICE
By William G. Heltzel ..... *Page 46*

The advantages of orifice meters for controlling pipe line operations are described by the author who was largely responsible for their introduction into this type of service several years ago, when he demonstrated what could be accomplished by using data obtainable from them.

SAFETY—WELL-KEPT PRODUCING LOCATION ..... *Page 48*

Measures taken to insure the prevalence of safe conditions during well servicing as well as at other times are discussed, with special reference to practices employed at a unitized producing property.

SOCIETY OF AUTOMOTIVE ENGINEERS—ABSTRACT OF PAPERS ..... *Page 57*

Summaries are presented of papers delivered before the New York and San Francisco meetings of S.A.E., which have been selected because they are of interest to those engaged in the producing, pipe line, and refining branches of the oil industry.

ADOPT GAS LIFT IN COTTON VALLEY TO MEET DECLINING PRESSURES
By George Weber ..... *Page 60*

Practices being adopted in applying gas lift at a few wells at Cotton Valley, La., are reviewed with special attention given to the conditions under which these operations are carried on and the equipment which is employed.

METALS PROGRESS—*By W. L. Nelson* ..... *Page 50*

OPERATING KINKS PRESENTED BEFORE N.G.A.A. ..... *Page 53*

QUESTIONS ON TECHNOLOGY—*By C. K. Francis, Ph.D.* ..... *Page 63*

Use of Orifice Type Meters in Crude Oil Pipe Line Service

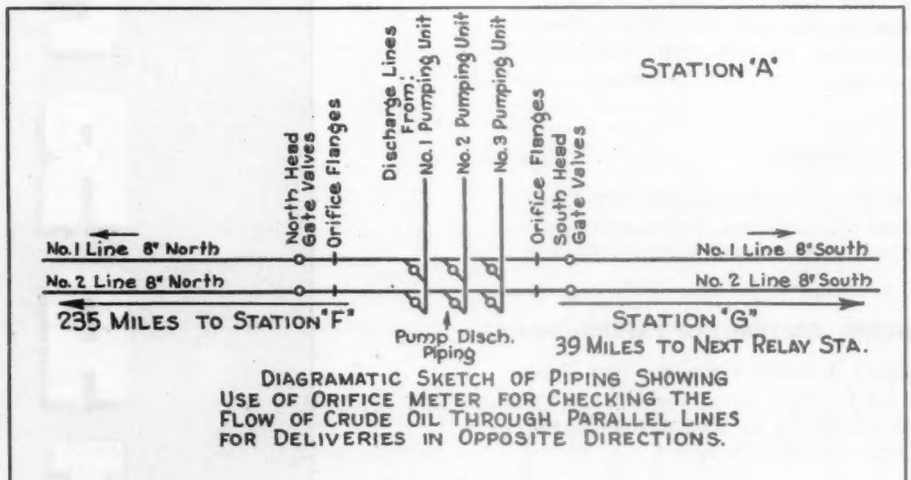
By WILLIAM G. HELTZEL
General Superintendent, Stanolind Pipe Line Co.

Since the early history of the industry, the strokes of plunger type pumps have been used for estimating the volume of oil pumped, as well as dispatching the oil and checking shortages between relay stations. With the advent of the centrifugal pump for crude oil pipe line service about 12 years ago, a new method for checking the oil and interpreting pressure drops for operations, using this type of pumping equipment, came into use. Although the manufacturers advised against the use of the orifice type meter for crude oil service, one pipe line company, experimenting with this type instrument in actual service, found that with an inaccuracy of only 2 to 3 per cent for specially designed orifices, these devices served satisfactorily for checking the volume of oil pumped, as long as they were used within the range for which the orifice was designed. The successful application of the instrument for this purpose opened the way for its use in connection with reciprocating pumping, which proved equally satisfactory.

The meter installation is similar to and typical of that used for gas measurements, except that the static pressure gauge is not required. The orifice flanges are usually installed in a discharge line between the manifold piping and the outgoing headgate valve, however, the instrument will function satisfactorily on the low-pressure, or receiving end of the line, as long as there is pressure on the downstream side of the orifice. The differential pressure gauge, calibrated in barrels of oil instead of inches of water, is usually located on the instrument board inside the station building. A more detailed description of the installation will be given later in this paper, however, this general information is offered here, so the reader will have a better understanding of the immediate discussion.

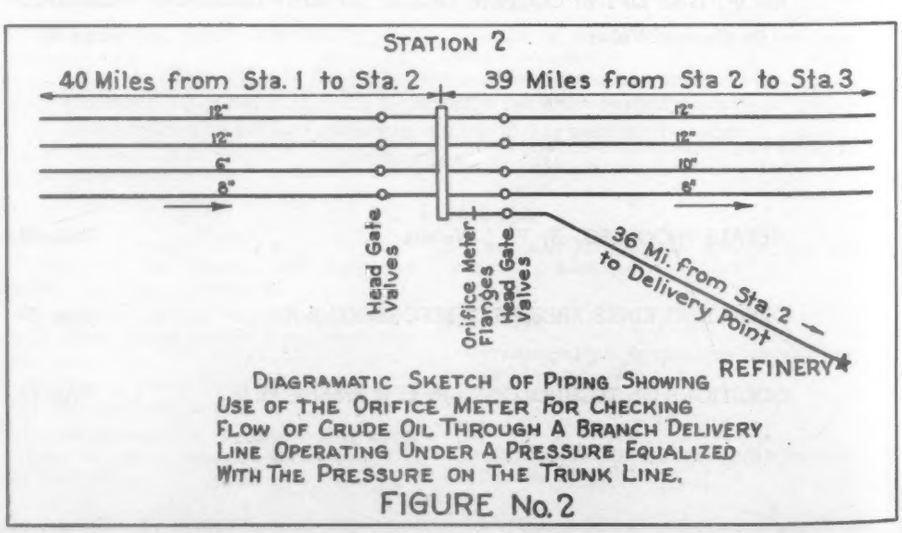
The first experiences with the orifice meter for checking volumes led to other uses. The operating pressure, serving as a "pulse of operations," at pumping stations is watched carefully by the attendants. A drop in the pumping pressure, whether resulting from a leak or break in a line between the relay stations, inadequate filling, improper functioning of the valves (in reciprocating pumps), or air in the pumps is investigated promptly. Without an instrument such as the orifice meter, it is difficult to determine the cause of pressure drops and quite often pumping stations are shut down and the lines between stations covered by linewalkers unnecessarily. The consequences are large losses of time in pumping schedules, delays in meeting an emergency condition, heavy expenses for patroling lines, and frequently undue hardships and hazards for the men who are called at night and during storms and blizzards, to cover the lines. In the first use of orifice meters for checking the volume of oil delivered by centrifugal pumps, it was observed that when a drop of static pressure occurred on account of the pump delivering a smaller quantity of oil, there was an accompanying drop in the orifice meter curve, indicating that a smaller volume of oil was passing through the orifice. On the other hand, a drop in pressure resulting from a failure in a line between stations was coincident with an increase in the curve on the orifice meter, showing that a greater quantity of oil (resulting from a surge of oil under pressure back of the meter and a slight speeding up of the pumping machinery operating under a lesser pressure) was passing through the orifice. Experience with both centrifugal and reciprocating pumping machinery showed that a drop of static pressure, coincident with an immediate drop in the curve on the orifice meter, meant that the trouble was in the pumps, and that it would not be necessary to shut down the station, disrupt the operations, evacuate and cover the lines between stations by linewalkers. With the trouble definitely known, only a short time was required to find and correct the condition in the pumps. A drop in pressure, accompanied by a simultaneous rise in the curve of the orifice meter chart meant definitely that there was a large leak or break in one of the lines between the relay stations. Such prompt and definite information made it possible to take care of an emergency on the lines without delay or undue expense. Experience over a period of 10 years has demonstrated that the orifice meter provides a definite and positive means of determining quickly whether the pressure drop is due to a failure in the lines between stations or to some trouble in the pumps.

Experience in the use of the orifice meter pointed the way to simplification and economies in operations. At various times in the history of individual pipe line companies having large systems, spare capacities in some sections of their systems permit bypassing some of the relay sta-



DIAGRAMATIC SKETCH OF PIPING SHOWING USE OF ORIFICE METER FOR CHECKING THE FLOW OF CRUDE OIL THROUGH PARALLEL LINES FOR DELIVERIES IN OPPOSITE DIRECTIONS.

FIGURE No. 1



DIAGRAMATIC SKETCH OF PIPING SHOWING USE OF THE ORIFICE METER FOR CHECKING FLOW OF CRUDE OIL THROUGH A BRANCH DELIVERY LINE OPERATING UNDER A PRESSURE EQUALIZED WITH THE PRESSURE ON THE TRUNK LINE.

FIGURE No. 2

tions and pumping the required amount of oil over longer distances than those determined by the location of the intermediate relay stations. Operating men, fearful of the risks of long distance pumping through the old lapweld screw lines, have perferred operating the intermediate relay stations at lower pressures. This fear was based largely on not knowing where to look for leaks and breaks, the risk of large losses of oil, and the delay in covering a long length of line before being able to meet the emergency conditions. On the other hand, the orifice meter installed at the initial operating station and at each of the idle intermediate stations enables the station operators to determine quickly whether the trouble is on the line or in the pumps at the first station. If the trouble is on the line, the meters at the intermediate stations will show on which section of the line the failure has occurred. As an actual example, the use of the orifice meters at the initial and the intermediate pumping station and a venturi meter on the incoming line at the final station has made it possible, in the case of one company's operations, to deliver approximately 8,000 to 9,000 bbls. of oil daily over a distance of about 145 miles, with two intermediate relay stations eliminated from the operation. A similar use of the orifice meter has made it possible to conduct operations (26,000 bbls. daily) safely and orderly with only four pumping stations 79, 218, 218, and 161 miles, respectively, apart in a distance of 676 miles.

The Orifice Meter Has an Advantageous Use in Checking Divided Pumpings

A further example of the advantageous use of the orifice meter for an approximate check on the volume of oil and for interpreting pressure drops is found in the division of or diverting a part of a common stream of petroleum under the same pressure through different channels. A practical example of "splitting" a stream and knowing approximately the volume of oil going through the different lines is demonstrated in the operations of Station "A" (Figure 1) a few years ago, when it was pumping south a maximum line capacity of 47,000 bbls. daily for making a delivery to a destination on the Gulf Coast. At that time, it became necessary to pump north through an idle system from Station "A" approximately 8,000 bbls. daily which could not be moved south on account of the limited line capacity. The relay stations immediately north and south of Station "A" were approximately the same distance apart (38 to 40 miles); the pipe line capacities were about the same.

The total capacity of the pumping machinery at Station "A" was 57,000 bbls. daily—only 2,000 bbls. more capacity than the total desired pumpings. There was not enough pumping equipment at Station "A" to permit the use of one pumping unit for pumping separately the 8,000 bbls. daily to the northern destination (Station "F"), which is 235 miles from Station "A." In this distance there are four intermediate relay stations. A study of the idle lines between Stations "A" and "F," showed that by taking out of service the necessary number of loops (parallel sections) for balancing the friction loss to accommodate only 8,000 bbls. per 24 hours against the friction loss for 47,000 bbls. (24 hours moving south through the 39 miles to the first relay station, Station "G"), the additional 8,000 bbls. could be pumped from Station "A" to the destination (Station "F") 235 miles north at a pressure of 700 pounds, without operating any of the intermediate relay stations. The plan required the use of all pumping machinery and provided for equalizing the pressure of 700 pounds in the manifold piping at Station "A" which resulted in the automatic proportioning of the 55,000 bbls. daily pumping into 8,000 bbls. moving over 235 miles to its north destination, and 47,000 bbls. going south 39 miles to the next relay station. Before putting this plan in use, its practicability was questioned because it was believed that when drops of pressure occurred at Station "A," too much delay and confusion would result in trying to find the trouble and in covering 235 miles of lines between Stations "A" and "F." A further consideration was that the delivery of 47,000 bbls. south daily allowed no leeway for long shutdowns of Station "A." The answer to the problem was the installation of an orifice meter at Station "A" on each of the four 8-inch outgoing lines, two lines north and two south. In their use, a drop in pressure, accompanied by an abrupt drop in the curve of all four orifice meters, showed definitely that the trouble was in the pumps. A drop in pressure coincident with an abrupt increase in the curve on both of the orifice meters on the north lines, and a sudden and simultaneous drop in the curves of the orifice meters on the south lines, showed conclusively that a failure had occurred on the north lines. Taking the course of lesser resistance an increased volume of oil moved north with a corresponding reduction in the south movement. In a similar manner, failures on the south lines could be determined. The orifice meters installed at Station "A" and at the idle intermediate relay stations made possible the use of the spare capacity in the pumping machinery at Station "A" for making the 8,000-bbl. delivery north over a distance of 235 miles without operating any of the four idle intermediate relay stations.

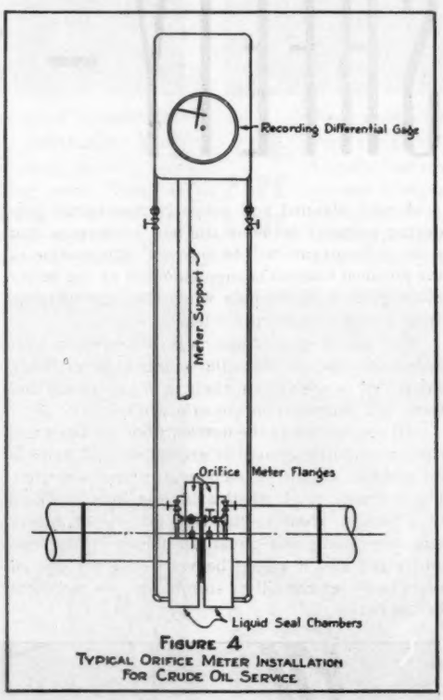


FIGURE 4
TYPICAL ORIFICE METER INSTALLATION FOR CRUDE OIL SERVICE

The Differential Pressure Meter (Orifice) Is Useful for Observing Operations in Diverting Oil From a Common Stream

A further example of the orifice meter being used advantageously for checking the volume of oil, as well as the operations, when diverting a part of a common trunk line stream through a separate line, is found in a typical case (see Figure 2) in which approximately 20,000 bbls. daily is diverted out of a common trunk line stream (50,000 bbls. daily) for delivery through 36 miles of a separate line to a refinery.

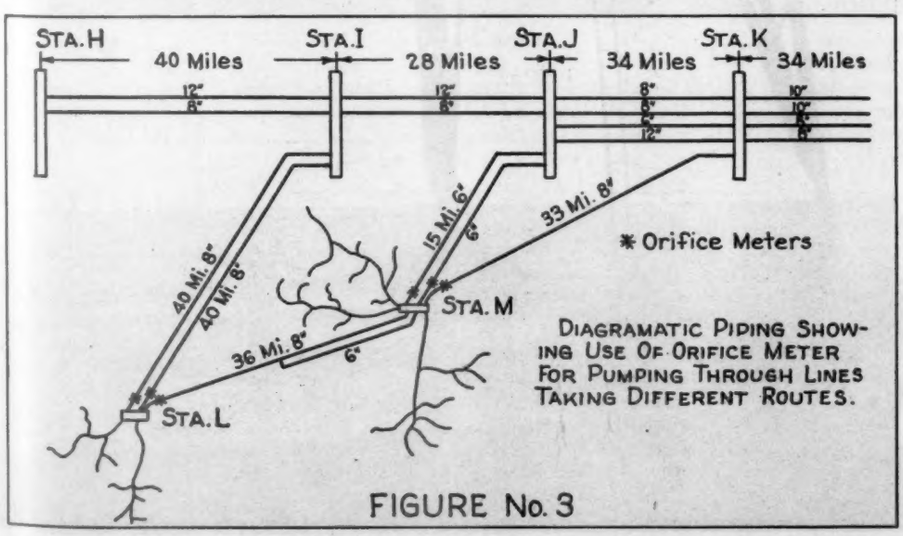
The approximate check on the volume of oil diverted through the refinery line and the reliability of the orifice meters in supplying the necessary information for interpreting drops in pressure eliminated the necessity of setting aside separate tanks and pumping equipment at Station 2 for making the refinery deliveries. A plug valve installed on an interconnection between the refinery delivery line and the trunk lines can be used for throttling the refinery delivery, whenever it is necessary to make such an adjustment on account of a change in the rate of delivery to the refinery or a change in the pressure of the trunk line stream. In this case, the orifice meter permitted the machinery and other facilities at Station 2 being used to the best advantage.

The use of the orifice meter for checking the volume of oil and interpreting pressure drops on "split" streams of oil is exemplified further in a typical gathering system (Figure 3) in which the field oil is delivered to the trunk line over different routes.

Station "L" is a gathering station (centrifugal pumps) capable of pumping 60,000 bbls. per day. Station "M" is a field gathering station similar to Station "L," except its capacity is about 30,000 bbls. daily. Stations "H," "I," "J," and "K" are trunk line relay stations. The capacity of the lines between the respective field gathering and trunk line stations is shown in the table below:

Between stations	Capacity in bbls. per 24 hrs.
L-I	39,000
L-M	18,000
M-J	32,000
M-K	20,000

Orifice meters used in the outgoing discharge lines of field gathering Stations "L" and "M" have proved valuable in locating trouble quickly in



DIAGRAMATIC PIPING SHOWING USE OF ORIFICE METER FOR PUMPING THROUGH LINES TAKING DIFFERENT ROUTES.

FIGURE No. 3

case of pressure drops, avoiding unnecessary shutdowns, maintaining nearly continuous pumping capacity, and making use of the machinery to the best advantage by pumping into all lines at the same pressure. The orifice meter can be used to good advantage in connection with low-pressure semiautomatic pumping units in gathering systems. This instrument is used successfully also in making hourly checks on deliveries into tank farms.

Orifice Meter Installation

A typical orifice meter installation for use in connection with crude oil lines is shown in Figure 4. It is similar to an illustration for measurement of gas, except no static pressure gauge is required and seal chambers are used for separating the crude oil from the liquid used in the lines between the flange and the meter for transmitting the differential pressure across the orifice plate. Tap flange connections are used instead of connections 2½ inches upstream and 8 inches downstream from the upstream side of the plate. The seal chambers, located near the flanges to prevent the pressure lines becoming inoperative on account of heavy oil accumulating in them, and the pressure lines connecting the instrument are filled with low-viscosity antifreeze solution. Since it is much more convenient (for observing the station operations continuously) to have the instrument installed on the instrument board inside the station building, most of one pipe line company's installations have been made in this manner. Experience shows that the instrument, located as far as 500 feet away from the orifice flanges, performs satisfactorily. In such installation the pressure lines between the flanges and the instrument must be laid to a grade to prevent pocketing of air.

The most simple and inexpensive installation is accomplished by placing the orifice flanges directly in the line as shown in Figure 4 instead of in a bypass. At stations where scrapers are run infrequently and shutdown time can be allowed for draining the line and removing the orifice plate, preparatory to running scrapers, the use of the orifice flanges directly in the line is not a serious handicap to operations. In this type of installation, a concrete pit is built to accommodate the orifice flanges and three-quarter inch jack screws are used in connection with the flanges to permit the separation of flanges and the removal of the orifice plate.

If an orifice meter installation is planned for a station where scrapers are run often and frequent shutdowns cannot be permitted for the removal of the orifice plate, the first cost of approximately $600 required for the installation of a special orifice type fitting, which permits raising and lowering the orifice plate, is warranted. For the larger sizes of lines, the orifice fitting will be more economical and will provide more convenience in operation than placing the orifice flanges in a bypass.

The cost for the most simple installation described above is approximately $200. When the instrument is placed on the instrument board inside the station building, the cost of installing the pressure lines between the orifice flanges and the instrument, and the expense of mounting and connecting the instrument inside the station building should be added to this figure. If the special orifice fitting (referred to above) is used, the cost of its installation should be included in the estimate.

Design of Installation and Problems Encountered in Operation of Orifice Meters

A correctly designed orifice meter installation, operating within its specific range, can be used advantageously not only for measuring the volume of oil pumped with an inaccuracy of 2 to 3 per cent, but also for checking the variations in the velocity of flow which are indicative of changed operating conditions, either in the pumping station or in the lines between stations. The accuracy and the sensitivity of the instrument for these respective purposes will be obtained through the use of an orifice plate designed properly for the fundamental principles, and on the basis that the full differential range of the instrument will conform with the maximum anticipated pumpings. Experience over a period of years has enabled, one company to design its orifice plates with good results; however, companies with little or no experience should have the orifice plates designed and made by the manufacturer. The expense for the operation and maintenance of the orifice meter is small and under proper care and supervision only a few problems are encountered in its use. One of the most frequent problems is leakage in joints; for this reason, the piping system should be carefully installed and the joints made tight. Some trouble may result from air collecting in the piping system; if the lines are laid to a grade between the instrument and the orifice flange, the air can be bled off either at the seal chamber or at the instrument, where air bleeders should be provided. Leakage in the joints will result in the loss of the antifreeze solution used as a liquid seal for separating the crude petroleum from the mercury in the pots of the instrument. When this condition develops, the instrument may not function properly either on account of the oil congealing in the pressure lines, or the mercury in the pots becoming contaminated by the oil. Since the accuracy will depend also on the orifice plate being properly centered, one company makes the installation of the orifice plate as fool-proof as possible by designing the plate to fit just inside the flange bolts. If the pumping rate changes, so that it is above or below the specific range for which the instrument is designed, the orifice plate should be replaced with one designed for the new range of operations.

SAFETY — Well-Kept Producing Location

A well planned and properly maintained producing property is one of the best assurances that a low accident rate will be enjoyed. Elimination of the physical hazards is supplemented by the safety consciousness in the men when they are working on a properly maintained lease.

The above photograph was taken on a unit operation, the participating companies all being interested in seeing that their men are aware that there is a premium on the safe worker.

All approaches to the derrick floor are open and the surrounding ground is graded so that there is no sudden stepup or stepdown when approaching the well head. Ordinarily the only workers who have to come to the well are the switchers but they come and go at all hours of the day and night and it would be very easy for one of them to get a hard fall by stumbling over an object in the dark.

When it comes time to pull the tubing from the well the tubing crew can assemble their equipment on the concrete floor without danger. The eyebolt in the near corner of the derrick is for anchoring the snatch block used to direct the line from the pulling unit to the crown block.

The circular cellar is covered to prevent anyone from falling into it and to prevent tampering with the well connections. Above ground is located the tubing master valve which can be closed in case the choke needs replacing. The valve on the flow line prevents any back flow while working on the well.

The operators are taking no chances on a worker suddenly deciding that he doesn't like the location of the ladder and moving it to an unsafe position. They have the bottom of it anchored in concrete. A man descending knows that he won't run out of ladder until he reaches the ground.

WELD IT AND PROFIT

THE WELL CASING

One of hundreds of installations of *"Shielded-Arc"* casing. A well in California. Advantages: Joints are practically flush with the casing, reducing hole diameter and cutting drilling costs. String is strong and leak-proof. Casing costs are low. Complete details and procedures sent on request.
Photo Courtesy American Pipe & Steel Corp., Alhambra, Calif.

THE PIPE LINE

An authority states that 75% to 85% of the oil and gas lines built today are *"Shield-Arc"* Welded. Reasons: Construction speeds are exceptionally high. Minimum amount of expendable material is required. Joints are strong, ductile and permanently leak-proof. What are the welding procedures now in use? Get Lincoln bulletin.
Photo Courtesy Truman-Smith Construction Co., Eldorado, Kan.

THE TOOL JOINTS

"Shielded-Arc" Welding saves the tool joint two ways. It is used to join coupling to pipe to prevent leakage and breakage, and to build up the worn surfaces at the joint. A bulletin is available telling how various companies do this work.
Photo Courtesy Lone Star Tool Company, Wichita Falls, Tex.

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Throughout the fields, *"Shield-Arc"* Welding cuts costs, forestalls delays and improves operations by simplifying construction and maintenance work. The answers to many welding and hard-facing problems will be found in "The Procedure Guide."
Built-up Rotary Table Teeth by E. H. Allen, Centralia, Ill.

For further details, consult the nearest Lincoln office or mail the coupon.

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PRODUCES A STRONGER, MORE LASTING CONSTRUCTION FASTER, AT LESS COST

Progress in METALS

By W. L. NELSON

Metallurgical Terms

Self-Hardening Steel

This steel is defined as an "alloy tool steel that becomes sufficiently hard by cooling in air (sometimes an air blast is employed) and whose cutting edges remain practically intact at temperatures approaching a visible red" (A.P.I. Code 28).

One of the primary effects of adding large or medium amounts of alloy element to a carbon steel is to cause hard constituents martensite and troostite to form by slow or air cooling. In carbon steels these same hard constituents must be produced by quenching or by quenching and tempering.

Endurance Properties of Nitrided Materials

According to the commonly accepted theory of fatigue failure, the concentration of stress at the surface of a material is the cause of initial weakening or the start of failure. Stress concentration is greatest at notches and is of importance even at such surface irregularities as the scratch-marks left by machining or grinding.

Thus, if the surface strength and hardness can be increased to such an extent that failure under repeated stress reversals does not first take place at the surface, the effect of surface irregularities or defects may be eliminated to a large extent and make possible a material having a greater endurance or fatigue limit. The results shown on Pages 23 and 24 of the bulletin entitled, "Nitralloy and the Nitriding Process" of the Nitralloy Corp., appear to justify the above reasoning. In general, nitrided specimens have higher endurance limits than specimens whose surfaces have not been nitrided. As a direct example, two notched specimens having notches of a depth of 0.0004 inches were examined. One of these was nitrided before the notch was cut, and the other was nitrided after the notch was cut. The specimen which had the notch cut after nitriding, which exposed new unnitrided material at the base of the notch, failed at a fatigue load of 45 per cent of the other specimen. It was found that V-notches which were cut before nitriding did not affect the fatigue limit to an appreciable extent.

The superiority of nitrided over plain specimens, with regard to fatigue limit, are definitely indicated by Tables 1 and 2.

Committee on Corrosion

Eighteen technical societies and other organizations engaged in the study of corrosion have joined in forming the American Coordinating Committee on Corrosion, which is to serve as a clearing house and coordinating agency for information on experience and work in progress in the field of corrosion and corrosion prevention. As a first step the committee is compiling a list of the names and addresses of those working in the field of corrosion in this country, together with information as to their special interests and their current programs of corrosion studies. Pending permanent organization, C. L. Warwick, secretary and treasurer of the American Society for Testing Materials, is serving as temporary chairman of the committee.

Oil Field Reducing Gears

Pumping reducers, like most other oil field equipment are expected to withstand severe abuse. They are frequently installed at remote locations where failure of parts is costly and troublesome. For these general reasons the Foote Gear Works has adopted alloy steel for many parts of its oil field speed reducer machinery. This company has had a long and successful experience with the use of such steels for similar applications.

In general, the pinions are made of heat-treated nickel-molybdenum steel (S.A.E. 4640), nickel-chromium-molybdenum steel in the heat-treated condition is used for the main shafts, and the gears are cast of pearlitic nickel-manganese steel. The gears are fabricated by rough-machining to a slight oversize, heat treated to a hardness of 300 Brinell number, and finally brought to exact dimension by a finish-machining operation. The size of some of these units should not be overlooked—a large main shaft may weigh 3,000 pounds—although a complete size range of reducers is available in the above materials. To date, over 300 of these reducers have been supplied to oil producers.

Residual Stresses Due to Circumferential Welds in Pipes

(Paper presented at the 1938 annual meeting of the American Welding Society by E. L. Eriksen and I. A. Wojtaszak of the Department of Engineering Research, University of Michigan.)

Stress is simply a technical term expressing load. It is difficult at first glance to imagine why a 2-foot length of pipe with an arc weld in the middle should be under stress or load before any visible load has been placed on it. Yet peculiar residual stresses are created in different parts of the pipe that has been welded. The heat of welding causes the pipe to yield while hot, the yields not being completely reversed during cooling. As a result, the steel in the pipe is under stress after welding. These loads or residual stresses have been measured by E. L. Eriksen and I. A. Wojtaszak, who have also studied the effect of reheating the welds to dissipate the residual stresses.

Since stress is always accompanied by changes in dimension, the problem of the authors of this paper was to devise a method by which the small changes in dimension that are caused by welding, could be detected. Welded pipes were cut into narrow longitudinal strips and the stress within these strips was sufficient to cause them to bend or bow slightly. Measurements of the deformation caused by residual stresses were made by means of microscope micrometers. Welded joints in mild steel pipes 8⅝ or 20 inches in diameter and 1⅛ or 1 inch thick, may have residual stresses up to 50,000 pounds per square inch in the larger pipe, and 25,000 pounds per square inch in the smaller. Reheating the weld for eight hours at 1,200° F. reduced the residual stresses nearly to zero. These measurements show that high residual stresses may exist near welded joints in large pipe but prove that the customary "stress relieving" heat treatment is entirely adequate.

TABLE 1—SUMMARY OF RESULTS OF ROTATING BEAM FATIGUE TESTS (SUTTON)

Composition—	Mochel	Inglis and Lake	Hengstenberg and Mailander FP75	FP13	FP13A	FPK13	FPE23	FK345	Sutton
Carbon	0.35	0.26	0.30	0.52	0.52	0.32	0.42	0.15	0.44
Chromium	1.67	1.58	1.43	1.74	1.74	1.24	1.68	0.85	1.71
Aluminum	0.91	0.87	1.12	1.28	1.28	0.93	1.33	...	1.33
Silicon	0.22	...	0.43	0.14	0.14	0.22	0.19	0.25	0.13
Manganese	0.54	...	0.41	0.27	0.27	0.72	0.38	0.40	0.34
Nickel	0.20	...	.....	.....	.....	.....	2.65	.....	Tr
Molybdenum	0.20	0.33	.....	.....	.....	0.34	.....	0.41	.....
Heat treatment	(1,751° F.) OQ955° C. T590° C. (1,094° F.) (1,004° F.)	.....	(1,688° F.) OQ920° C. T650° C. (1,202° F.)	(1,652° F.) OQ900° C. T650° C. (1,202° F.)	(1,616° F.) OQ880° C. T670° C. (1,238° F.)	(1,544° F.) WQ840° C. T660° C. (1,220° F.)	(1,598° F.) OQ870° C. T660° C. (1,220° F.)	(1,706° F.) OQ930° C. T650° C. (1,202° F.)	.....
Tempering treatment after machining three hours at	(1,022° F.) 540° C.	550° C.	.....	.....	.....	.....	.....	Nil	.....
Fatigue properties, lbs. per sq. in. (rotating beam)	±	±	±	±	±	±	±	±	±
Heat-treated bar material	76,200	.....	60,500	71,700	66,100	69,440	78,400	61,600	.....
Heat-treated and given same thermal treatment as in nitriding	.....	73,900	58,210	73,900	.....	.....	.....	66,100	.....
Heat-treated and nitrided	*84,000	.....	†78,400	†96,300	†84,000	†89,600	†96,300	†96,300	§‡86,000
Heat-treated and nitrided, core material	.....	.....	.....	.....	.....	.....	.....	.....	§71,400

*Nitrided 90 hours at 510° C. (950° F.) †Nitrided 48 hours at 500° C. (932° F.). ‡Nitrided 90 hours at 500° C. (932° F.). §Rotating cantilever.
Note: OQ—oil quench; WQ—water quench. The summary by Sutton gives values in tons/inch². These have been converted into pounds per square inch by multiplying by 2,240.

TABLE 2—RESULTS OF FATIGUE TESTS

Steel—	C	Mn	Cr	Al	Mo	Condition	T.S. lbs./sq. in.	Fatigue strength, lbs. per sq. in. (rotating beam) Polished smooth	Sharply notched*	Fillet† r = .04 in.
FPE 23	0.34	0.49	1.4	1.23	0.38	Not nitrated	138,900	73,900	40,300 to 41,400	45,900 to 47,000
						Nitrated for 60 hrs.		87,400 to 88,500	87,400 to 88,500‡	87,400 to 88,500

*.004 inch deep, as sharp as possible; notched before nitriding.
†At the joint of test length (.30 inch) to ends (.48 inch). Samples finish machined before nitriding.
‡Specimens did not break at notch.

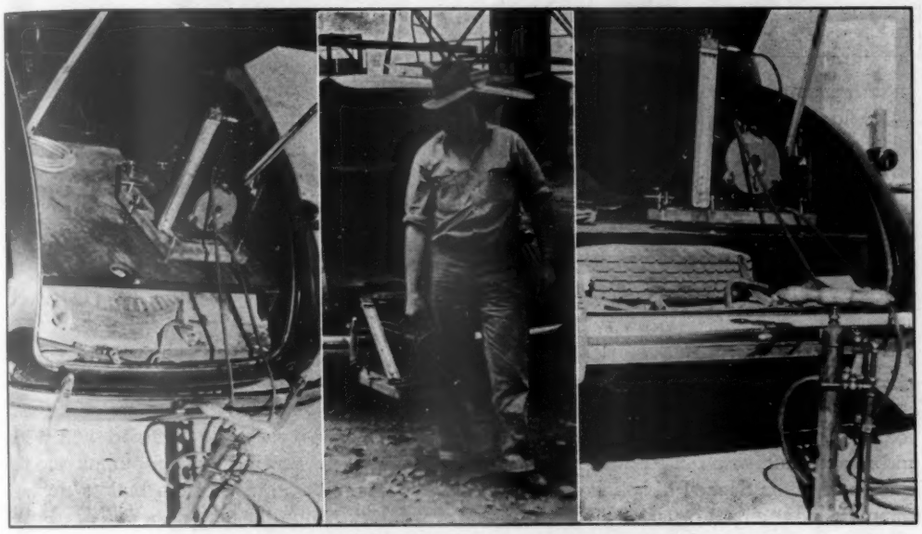
Operating Kinks -- N. G. A. A. Meeting

(Concluded from Previous Issues)

New Mounting for Specific Gravity Balance

HONORABLE MENTION, CLASS D

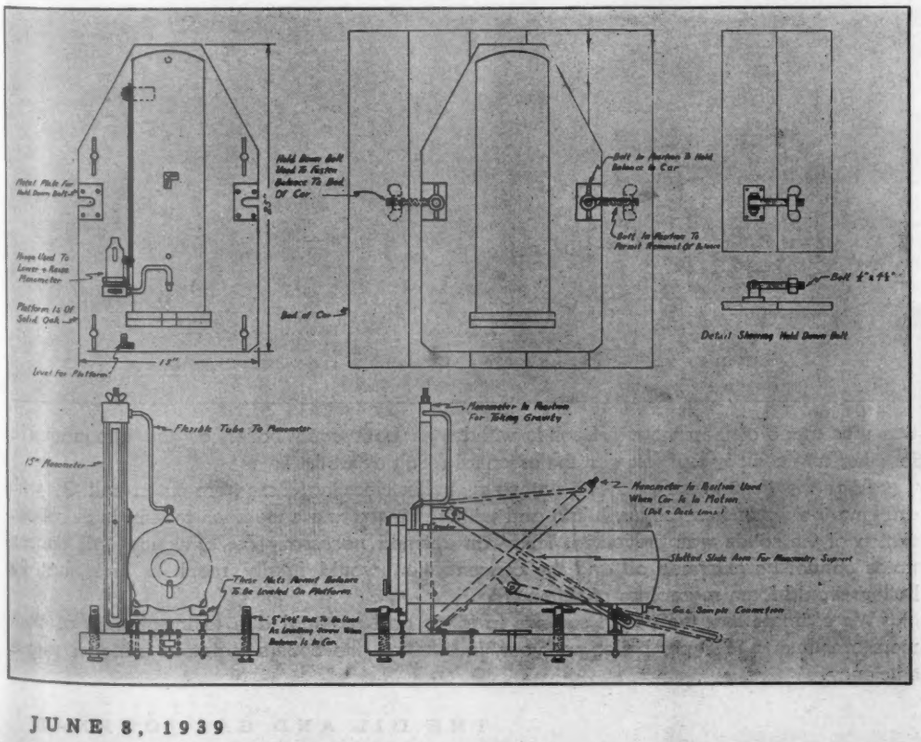
W. F. DELAMETTER, superintendent, meter department
Phillips Petroleum Co., Phillips, Tex.

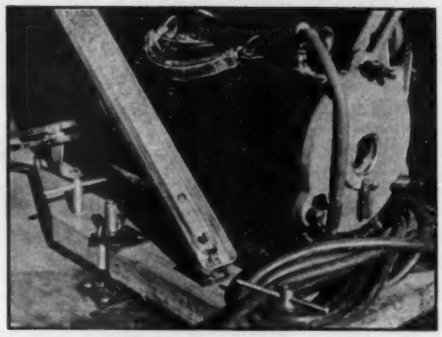


The accompanying drawing shows a method of mounting a specific gravity balance which has saved much time and expense in running gravities in the Panhandle district.

Our old method was to carry the balance, manometer and tripod as three separate items which were assembled as a unit each time a gravity was run. This procedure meant that the balance had to be fastened to the tripod and the manometer then fastened to the balance. Putting the balance on the tripod and leveling called for considerable care and there was always the danger that in some way the balance would be knocked over. Then, too, it would frequently be found that the mercury had been spilled from the manometer as it was being carried or connected and in refilling and reconnecting much time was lost.

As the drawing shows, the balance and manometer are assembled as a unit on a strong oak platform which, since the manometer can be lowered to a reclining position when the


Hold Down Bolt Used To Fasten Balance To Bed Of Car.
Bolt In Position To Hold Balance In Car
Bolt In Position To Permit Removal Of Balance
Bolt 1"x11"
Bed of Car
Detail Showing Hold Down Bolt
Level for Platform
Flexible Tube To Manometer
15" Manometer
Manometer In Position For Taking Gravity
Manometer In Position Used When Car Is In Motion
Slotted Slide Area For Manometer Support
Gas Sample Connection



balance is not being used, permits the balance to be carried in or out of the car without disconnecting the manometer from the balance. This prevents loss of mercury and leaks at the connections between the balance and the manometer.

The balance is fastened to the car bed by means of two bolts equipped with winged nuts. These bolts are installed so that they can be laid back when not used to hold the balance in the car. Four leveling screws are provided enabling the platform and balance to be leveled on the car bed when a gravity is run.

The balance can also be leveled with regard to the platform itself by means of six adjusting nuts running on three bolts which are placed under the balance and which extend through the oak platform. In case it is impossible to get the meter car to the point at which the balance is needed, the balance can be removed and carried as a unit to the place desired.

This type assembly is now used here and has cut in half the time required to run a given gravity. We have found also that due to less handling and connecting of parts it is possible to run check gravities with greater consistency.

Improved Method of Sampling Absorption Oil

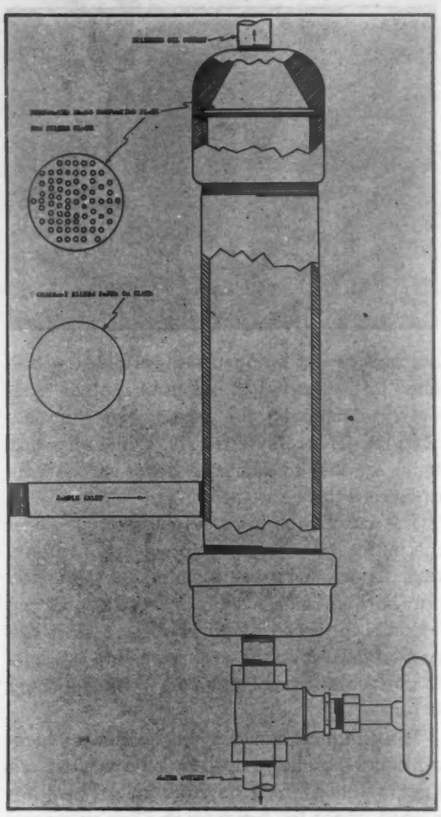
HONORABLE MENTION, CLASS B

O. W. MALICOATE, chief operator
Phillips Petroleum Co., Oklahoma City, Okla.

This method of sampling eliminates the necessity of any filtering whatever in the laboratory. As has been the experience of those handling samples, the extremely long time necessary for filtering absorption oil sample which may contain water, leads to a loss of light ends which may be in the sample. This improved sampler will give an absolutely water-free sample as well as eliminate the sediment which may be present in the stream.

This sampler-filter is very inexpensive to make. The parts required for its assembly consist of:

1—2-in. double extra heavy nipple approximately 12 in. long.
1—2-in. threaded cap with ¼-in. drilled and threaded hole.
1—Woven filter cloth and filter papers.



1—2 by 4 in. swage.
1—Perforated brass supporting plate for filter cloth.
1—¼-in. hole drilled and threaded about 2 in. from one end of 2-in. nipple.

The accompanying drawing shows how the assembly appears when it is ready for use. The sample inlet will be nearer the bottom end of the filter. Through the valve on the bottom the water from the sample will be allowed to drain and the filtered oil will be taken off through the top.

The entire length of the nipple will be filled with cotton and as the oil travels up through this cotton it must pass through the filter paper and cloth and thus any minute particles aside from colloidal material will be taken from the oil.

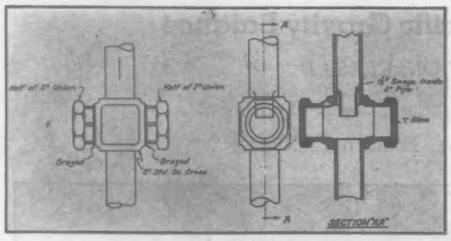
This filter can be taken from one place to another for securing samples throughout the plant. The only requisite is that the cotton and filter paper should be renewed before each sample is taken. This, however, entails little expense when the length of time eliminated is considered.

Look-Box on Overflow Line on Knockout Tower

HONORABLE MENTION

ARCHIE ROBINSON, chemist
HARLEY BOLLINGER, superintendent
Lone Star Gasoline Co., Ranger, Tex.

A device of this kind has various uses. However, the proper use for the device would be on vacuum intake scrubbers, or large vacuum line. It can be used on a vacuum intake scrubber to determine the amount of rust, scale or any sediment which



might cause a restriction in the flow of gas.

On large pipe lines by installing this "look-box" one may determine the amount of condensate which the line carries. Also, foreign matter traveling through the line can be detected.

Since this box is used on vacuum lines, it can be installed after the lines are in operation. To install, weld a 4-in. collar on the line, then cut out the line on the inside of the collar and screw the "look-box" in place. A flashlight can be used to light the inside of the pipe.

The cost of this box is very small as it only requires ¼-in. nipple, ¼-in. flanges and a piece of glass suitable for the amount of vacuum that is on the line.

Skimming Line to Eliminate Foaming in Water Tube Boilers

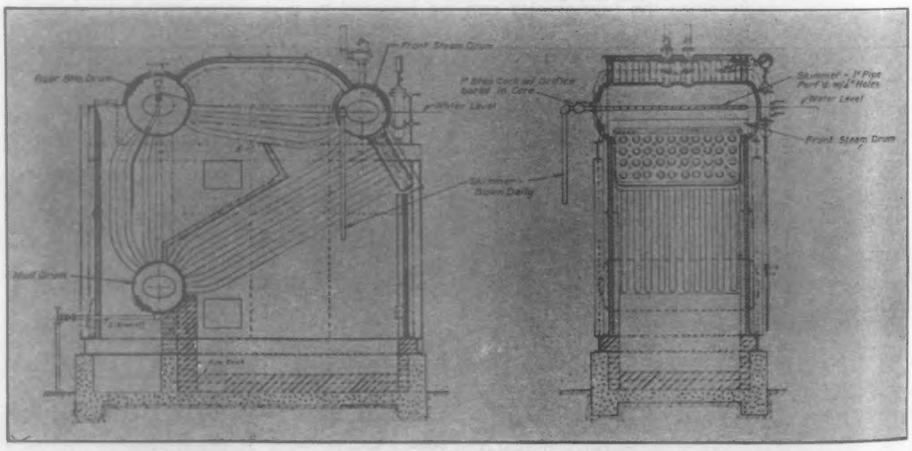
HONORABLE MENTION, CLASS A

JOHN L. MAY, plant superintendent
Shell Oil Co., Iowa, La.

The water used in the boilers under discussion contains considerable soda and magnesium. It was found that these compounds concentrated and, being light, accumulated on top of the water in the drums. Foaming took place when boilers were heavily loaded, and it was nearly impossible to maintain the proper gage level. Water highly concentrated with soda and magnesium was pulled over with the steam. This slowed down all steam pumps and turbines and left a deposit of solids accumulated in the steaming tubes of the boilers necessitating frequent shut-downs for cleaning to prevent injury to the tubes.

An experimental skimming line was installed in both front and back drums. A perforated 1-in. line extending the length of the drums was suspended at the water level so that a small amount of water and solids would be skimmed off the top through an orifice bored in the core of a closed stop cock. Experiments developed that it was necessary to determine the size of the orifice by the water rate of the boiler and the amount of concentrates formed. The stop cock was installed in order that the skimming line could be blown down periodically. In this case it was found that a daily blow down was necessary in order to keep the skimmer line clear of deposit.

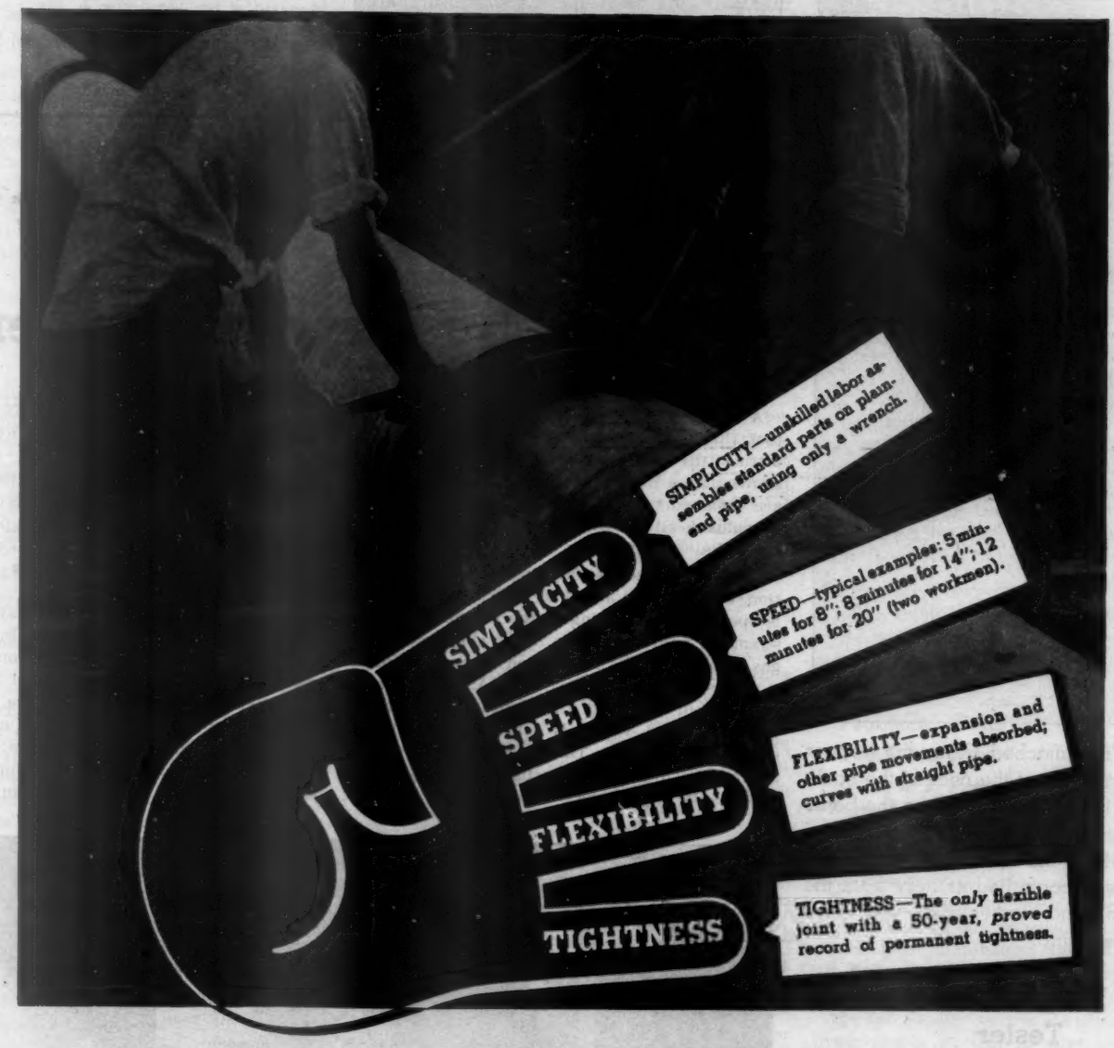
It was found that most of the concentrates were taken from the front drum; therefore, additional boilers were equipped with skimmers in the front drum only. No accurate determination was made of the amount of solids withdrawn from each boiler, as the elimination of foaming and solid formations was the essential result desired.



After the installation of these skimmers, boiler cleaning costs were cut in half. By withdrawing the water from boiler, filling and withdrawing again once each month, high concentration of the solids was prevented. This was deemed necessary as, obviously, all concentrates cannot be skimmed off and the concentration would finally reach a limit that the boilers would foam regardless of skimmers.

We estimate that the actual savings in labor and material due to installation of skimmers amounts to $250 per boiler per year. In addition, the boilers maintain a higher rate of efficiency.

CHECK ALL FOUR!


SIMPLICITY
SPEED
FLEXIBILITY
TIGHTNESS
SIMPLICITY—unskilled labor assembles standard parts on plain end pipe, using only a wrench.
SPEED—typical examples: 5 minutes for 8"; 8 minutes for 14"; 12 minutes for 20" (two workmen).
FLEXIBILITY—expansion and other pipe movements absorbed; curves with straight pipe.
TIGHTNESS—The *only* flexible joint with a 50-year, *proved* record of permanent tightness.

Before you decide on any pipe joint, check it for "ALL FOUR"—*Simplicity, Speed, Flexibility,* and *Tightness.* The builder of this 230-mile, 22" natural-gas line from Indiana to Michigan got ALL FOUR because he specified Dressers. ● There is no "short cut" to *true* pipe-joint economy Insist on ALL FOUR. *Only Dressers Give You ALL FOUR!*

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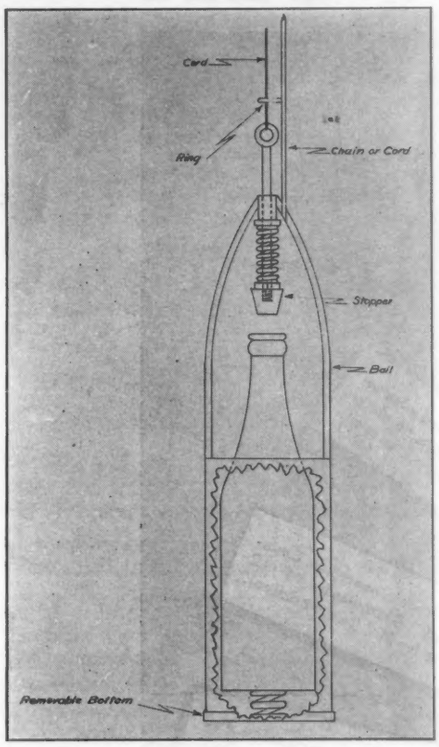
DRESSER
PIPE COUPLINGS

Sampling Bottle

B. O. KELLY, machinist helper

Phillips Petroleum Co., Oklahoma City, Okla.

The sampling bottle makes possible the taking of samples from any level in a tank. The container is heavy enough to sink the bottle to the bottom of the liquid. When the bottle has been lowered to the desired level



by means of the attached chain, the stopper is pulled up and out of the neck of the bottle allowing the liquid to enter. When the bottle is full the stopper cord is released, automatically corking the bottle.

This device is controlled entirely from the top of the tank and insures a representative sample of the liquid.

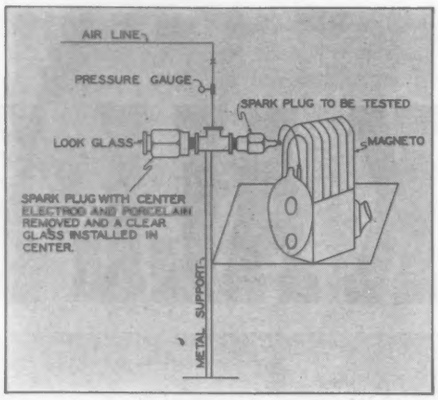
Spark Plug and Magneto Tester

HONORABLE MENTION, CLASS A

R. F. KIDD, operator

Skelly Oil Co., Slick, Okla.

This device has been designed for determining the source of engine ignition trouble. It saves time and air pressure in starting much-needed engines which have gone down due to faulty ignition. Through its use, spare ignition parts can be repaired and set aside for future use; without the tester, these would be discarded as worn out parts. The tester is made by taking an old ¾-in. Bosch spark plug and removing side and center electrodes as well as porcelain insulators. A look glass is placed on the open end; this is


AIR LINE
PRESSURE GAUGE
SPARK PLUG TO BE TESTED
LOOK GLASS
MAGNETO
SPARK PLUG WITH CENTER ELECTROD AND PORCELAIN REMOVED AND A CLEAR GLASS INSTALLED IN CENTER.
METAL SUPPORT

made by placing a circular piece of thick, clear glass, protected on both sides by gaskets, between a retainer nut and the hexagon end of the plug. The plug is screwed into a ¾-in. tee. This assembly is mounted on a metal support which is connected to a metal bracket, on which the magneto is placed. A 250-lb. pressure gage is placed on the air line at a convenient point. The spark plug to be tested is screwed into the end of the tee and air pressure is applied. The magneto is hand operated and the spark is observed through the look glass. Magnetos, breaker points, and ignition cables are also tested in this manner.

Small Quantities of Oil or Gas Shown by New Instruments

A robot gas detector and its accompanying tool, fluoroscopic lamp, are two new items which attract the attention of drillers. These were shown at the Houston Oil-World Exposition. They are designed to eliminate the hazards of passing up valuable oil and gas producing sections in wildcat wells.

The gas detector is fully automatic in its operation, and is easily added to the rig equipment. It is operated by diverting to the instrument a 2-in. stream of mud on its way to the slush pit. If any gas is present, this is released from the mud as it passes through the separator. Any gas is transferred from the top of the separator to a part of the instrument which is sensitive to increased electrical resistance. The presence of 2 per cent natural gas in the air entering this compartment will result in a contact which sounds a signal, thus warning the driller. A mixture of 2 per cent gas with 98 per cent air is too weak to be detected by odor or ignition.

After the alarm has sounded, the instrument is readjusted to detect an increase of gas carried by the mud. The instrument also provides information as to the wall-building action of the mud when attempting the seal off a high-pressure sand.

With this warning the driller may begin to use the fluoroscope. If the mud contains crude oil in a solution of only one part in one million, or more, he can instantly see the oil film. The entire operation of taking a sample of mud in a pan, putting it in the fluoroscope and inspecting it can be completed in 1 minute; this encourages a frequent inspection of samples so necessary to successful wildcat operation.

The fluoroscope, seen in the left foreground, reveals the presence of crude oil in drilling mud, although the solution may be no more than one part in one million. The operation is as simple as sliding a pan of mud through the door at the bottom of the box and looking into the lamp as shown here

S. A. E. Abstracts

Papers presented before New York and San Francisco meetings of the Society of Automotive Engineers, May 22 to 26; June 6 to 8.

Aviation Fuels and Engines

By F. R. BANES

Technical Manager of the Associated Ethyl Co., Ltd. London, England

Consideration was given to future engine developments for powers between 2,000 and 4,000 b.h.p. and the author's views on the form which such engines will take, together with optimum cylinder sizes and number of cylinders. This concerns the possible future development of military aviation in America as well as in Great Britain. A short resume is given of the aviation fuel situation in Great Britain; there is a description of work done in conjunction with the British Air Ministry and one of the aero engine manufacturers in the development of very high-duty aviation engines. There is a discussion of the American two-valve hemispherical cylinder head in relation to British four-valve engines in regard to fuel behavior. Mention was made of certain new developments in this country, such as the treatment of poppet type exhaust valves with Brightray. Attention was given to the single-sleeve valve and the development of the sinterkorund (sintered aluminum oxide) spark plug. The subject of direct injection of gasoline also was dealt with.

Aircraft Engines and Their Lubrication

By ARTHUR NUTT

Vice President of Engineering, Wright Aeronautical Corp.

Various design features were discussed to emphasize the importance of detail research and development. Among the items of importance were cooling, supercharging, vibration damping, fuels, materials, and spark plugs.

Trends in fuel injection, compression-ignition engines, coaxial propellers, liquid cooled-engines, engine types, sleeve-valve engines, lubrication and the relative progress in the development of American and European engines, also were covered.

It appears that the development of aircraft engines is destined to continue at an accelerated rate during the next 5 years as the results of research on details are applied. No one type will replace the variety now available but rather an increased number of types will appear as more care is taken to design special engine types for various airplane types. A revival of liquid cooling will be seen, particularly for military work. American aircraft engine designers must look to their laurels if they wish to maintain their position in the industry, and that position will be maintained if the present policy of providing adequate funds for personnel and equipment is continued.

Controlling the Deterioration of Crankcase Lubricating Oils in Service

By J. R. SABINA

Petroleum Chemicals Testing Laboratory, E. I. du Pont de Nemours & Co.

The susceptibility to improvement of crankcase oil oxidation by addition agents varies over a wide range. This is shown by engine tests carried out under specific conditions to determine the effects of various addition agents. It is inevitable that further advances will be made in the field of addition agents with increased knowledge of the chemistry of lubricating oils, of oxidation phenomena, and of engine variables.

Present knowledge of the art indicates that one of the most satisfactory methods of accomplishing this oxidation control is to counteract the effect of catalysts on the oil. Although this method contributes to an appreciable extent, it is not the final solution since it does not control oxidation beyond that promoted by the activity of the metals. A combination of a metal deactivator and a true oxidation inhibitor undoubtedly would produce most satisfactory results. In addition to the oxidation phenomena other changes in the oil due to elevated temperatures probably play an important role in the formation of undesirable properties.

In order to obtain oil depreciation in short periods of time, it was necessary to use relatively severe conditions, but comparisons under these circumstances indicate real differences between treated and untreated oils. Furthermore, the trend in engine design is toward greater power output with more exacting demands on the lubricating oils; hence the accelerated conditions of today may be the normal conditions of tomorrow.

Fundamental Mechanical Aspects of Boundary Lubrication

By H. BLOK

Delft Laboratory, Royal Dutch-Shell

It is a great obstacle to the intelligent selection of lubricants and materials that the numerous physico-chemical results cannot be exploited to the full without a thorough knowledge of the fundamental mechanical aspects of boundary lubrication.

The duties imposed on lubricants and on rubbing materials respectively, should be known. These duties depend largely on the mechanical conditions, such as local temperature and pressure in the region of contact between the rubbing surfaces. Therefore, the mechanical conditions should be determined; sufficient knowledge of this "missing link" has only recently been obtained.

Owing to the load, the surfaces will be compressed locally, so that a "point" of contact is an elliptical or circular region of contact and a "line" of contact a band-shaped region of contact. In the practice of boundary lubrication this region of contact is at the same time the one and only surface of actual contact.

The following qualitative results may be emphasized:

(*a*) In the case of point—as well as line—contact the distribution of contact pressure is continuous, therefore the region of contact is at the same time the one and only surface of actual contact. Furthermore, this distribution is such that at the edges of the surface of contact this pressure is zero and in the center of this surface it is at a maximum.

(*b*) In the case of point-contact the lengths of the axes of the elliptical (or the diameter of the circular) surface of contact are proportional to the cubic root of the total load and, consequently, the mean contact-pressure depends likewise on the cubic root of this load.

(*c*) In the case of line-contact the width of the surface of contact is proportional to the square root of the load per unit of length and, consequently, the mean contact-pressure depends likewise on the square root of this specific line-load.

(*d*) Developing the Hertzian theory, Foppl (1936 b) has succeeded in showing for line- as well as for point-contact that the state of stress in the individual points in or near the surface of contact is nearly hydrostatic, so that, according to the theory of rupture, it is relatively little dangerous.

The C.F.R. Shrouded Intake Valve

By NEIL MacCOULL

Texas Co.

Some experiments were undertaken to determine whether the zone of detonation in a cylinder could be shifted by turning the shroud on a C.F.R. intake valve. Although this shifting was not accomplished, turning the shrouded valve had a pronounced effect on the temperature of a U. S. Army thermal plug, on the sensitivity of such an instrument as a measure of detonation, and on the knock intensity. There was also some evidence that knock ratings of sensitive fuels are altered by the changes in turbulence which result from various positions of the shroud. It appears that further experiments on the effects of the position of the shroud are well justified.

Petroleum—Today and Tomorrow

By DR. A. E. DUNSTAN

Anglo-Iranian Oil Co., Ltd.

It may be of some interest, though, speculative, to see the man of the future, as not only will ample supplies of liquid fuel be available, but all sorts of derivatives for every conceivable purpose. One of the most striking developments will be in the direction of plastics. One of the outstanding starting out materials is formaldehyde, which we have seen may be produced by the oxidation of methane. Phthalic anhydrite is another most important starting out material, and it in turn is derivable from naphthalene, again a pyrolysis product. So one can trace the daily life of the man who lives in this future petroleum era.

We can readily assume the house in which he lives; nearly all therein is of petroleum origin. The tiles on the roof, the structure itself of synthetic glass, hollow brick, the furniture, doors, partitions are all of this cheap and easily molded material. He himself will be dressed in fabrics spun from fibers of the same origin. It is not a long step from the fibers of the nitro or aceto cellulose type to fibers of petroleum plastics. However, he will be able to indulge his taste for decoration by having these fabrics dyed from the whole range of colors from the aromatic series.

If it so be that he is concerned about the imminent falling out of his hair he can remedy this by application of petroleum products to his scalp, and that is actually being done today. His spectacle lenses (and presumably all posterity will wear spectacles) will be molded from transparent plastics that are now beginning to be manufactured. Even his artificial dentures will be made from the same material.

Naturally his shoes will have a rubber basis,

and it is conceivable that a synthetic leather fiber will be further developed.

Like the rest of his furniture, his bath will be molded from plastic. Naturally the hot water therein will be heated, probably by bottled gas, which even now is making such headway in the world. His petroleum house will be lighted in the same way by the impact of flame against highly radiant material.

It is reasonable also to anticipate some of his food may be of similar origin. So far back as the war days synthetic fatty acids were obtained from paraffin wax, and it is not unlikely that these fatty acids may be combined with ethylene derivatives and of propylene derivatives to form material similar to the ordinary animal and vegetable fats we eat today.

It is conceivable that petroleum will also be utilized for fertilizers for agricultural purposes, and for insecticides in the extermination of insect pests, locusts, etc.

The Past, Present, and Future of Cooperative Progress

By A. LUDLOW CLAYDEN
Sun Oil Co.
and
WILLIAM S. CANNING
Keystone Automobile Club

This paper sums up automotive developments which are likely to occur in the next 10 years. It appears that there will be some increase called for in the antiknock quality of gasoline, because there would still be some gains from the automobile manufacturer's point of view if he could increase the compression a little more. A gradual decrease in the amount of motor oil used, in proportion to fuel consumed, is to be expected. The general tendency is for mechanical changes in automobiles to take place even more slowly. The development of high speed has reached about the end for at least 10 years. It is extremely probable that engines will move from the front to the rear end of the car. Automatic speed changing is also probably coming. The period of experimentation with springs is not over but none of these things are likely to have much effect upon the metallurgical or petroleum products.

In arriving at these predictions, the historical and technical development of transportation units were surveyed.

The real start of cooperative work on lubricants came 6 or 7 years ago when it was realized that many advantages are derived from using motor oils of considerably lower viscosity than established practice.

It was predicted that in the future there would be superhighways from coast to coast and from Canada to Mexico; roads on which there will be no highway or railroad grade crossings; no speed limits and no access from the roadside for man or beast. The vision of a 150-mile-an-hour highway involves no imaginary features.

Diesel Fuel Characteristics Influencing Power and Economy

By A. J. BLACKWOOD
and G. H. CLOUD
Standard Oil Development Co.

The present trend of fuel quality in the United States appears to be toward volatile, highly paraffinic fuels which necessarily have high A.P.I. gravity. It is quite probable that this trend may change when the various engine manufacturers have overcome some of the design difficulties which have led to undue smoking, ring sticking, engine fouling troubles, and the like, all of which have probably contributed to the relatively widespread demand for the lighter fuels. When these difficulties have been overcome, and the prospective customer selects that Diesel engine which is most economical to operate and which can use the lowest-priced fuels—then more attention will be given by the engine builders to fuel economy. In all likelihood this will result in a demand for fuels of higher heating value per gallon, i.e., lower gravity fuels. Just how far speed trends in engine design and the ability of engines to use low cetane number fuels will permit this to extend remains to be seen.

Points which seem to be of great practical significance may be summarized as follows:

1. Assuming complete combustion, fuel volatility effects the pints of fuel per brake horsepower-hour only indirectly as it is related to heating value and ignition quality.

2. Most present-day engines have fixed injection timing, and on such engines ignition quality is a major factor in determining volumetric fuel economy in the upper speed ranges. At the lower engine speeds, heating value in terms of B.t.u. per gallon, or as estimated from A.P.I. gravity, is the most important consideration.

3. Fuel viscosity by itself is not an important factor in the power obtained on a high-speed Diesel engine except in instances where worn injection equipment may make it undesirable to use a low viscosity fuel.

Laboratory Tests as a Means of Evaluating Performance of Lubricants

By F. L. MILLER, J. F. KUNC, JR.
and R. W. RICHARDSON
Standard Oil Development Co.
(Esso Laboratories)

The average motor oil user has come to expect a great deal from the product which goes into the crankcase of his engine. It must be sufficiently low in viscosity at the lowest temperatures which will be encountered to permit the starting motor to turn over the engine at a speed high enough to start. It must also flow instantly to the oil pump so that immediate lubrication of the moving parts is assured. Once the engine is started the crankcase oil must then perform the dual task of carrying heat away from the different bearing and rubbing surfaces and prevent their coming into actual contact. It should also be resistant to oxidation and should not form harmful sludges and deposits. In addition to these, there are many other properties which are also important.

It has also been fairly conclusively established that the average spark ignition gasoline engine equipped with a fully charged battery will not start at 0° F. if the viscosity of the oil in the crankcase is greater than roughly 30,000 seconds.

Bass and Barton have concluded, as the result of tests in single-cylinder engines under a variety of operating conditions, that only from 10 to 20 per cent of the total oil consumed in an engine is actually decomposed in the combustion chamber to form carbonaceous deposits.

It appears, therefore, that of the total oil finding its way into the combustion chamber, the portion which comes into actual contact with the surfaces of the chamber is primarily responsible for the bulk of the carbon formed.

In addition to the oil which collects and carbonizes on the combustion chamber surfaces and that which is completely burned with the fuel, there will also undoubtedly be a small portion remaining in the form of vapor or fine droplets in the combustion and exhaust gases. These particles will have further opportunity to carbonize while they remain in the chamber.

Combustion chamber carbon deposits tend to reach an equilibrium in an engine rather than build up indefinitely.

There are two basic types of sludge which are encountered in service. The first is the solid, or pasty, type which is composed principally of products of fuel and lubricating oil oxidation and combustion, road dust, metallic particles, and oil. This type of sludge contains little or no water. The second type of sludge is the so-called "mayonnaise" sludge, which is in essence an emulsion of oil and water in which a small amount of the solid-type sludge acts as the emulsifier. The "mayonnaise" type of sludge results from relatively cool operation of engines.

The solid, or pasty, type of sludge, as pointed out previously, is generally a relatively heterogeneous mixture of materials. A number of factors may contribute to its formation. Carbon and other products of incomplete combustion of fuel and lubricating oil may be blown down past the piston rings from the combustion chamber to make their appearance as sludge in the lurbicating oil.

The mechanical condition of an engine has considerable bearing on the quantity of contaminating materials which will find their way into crankcase oil and appear as sludge.

The results of innumerable tests in a variety of engines show that the sludging or general engine performance characteristics of motor oils, cannot be predicted solely on the basis of the results obtained in single laboratory oxidation tests. In general, it appears that the largest share of the sludge is the result of contamination from sources outside the crankcase. Only in the case of improperly refined oils is it probable that much sludge is formed by oxidation of the oil in the crankcase itself.

As far as the lubricants themselves are concerned, some oils have been found to be much less prone to form varnish than others. In general, the tendency to form varnish seems to be related in some manner to the crude source and the method of refining of the oils.

As far as the authors are aware, no satisfactory laboratory tests have as yet been evolved for predicting the varnish-forming characteristics.

Corrosion generally occurs only with certain engines in which high crankcase or bearing temperatures are encountered, and apparently results from the reaction between the bearing metals, lead in the case of the copper-lead alloys and cadmium in the case of the cadmium alloys, and acids which have been formed in the oil as a result of oxidation at the high crankcase temperatures. These acids may be formed in even highest quality lubricants under severe conditions, and their presence does not by any means necessarily indicate an inferior characteristic of the lubricant.

The question of engine wear, particularly that involving wear of the piston rings and cylinder liners, has occupied the attention of numerous investigators in both the petroleum and automotive engineering professions.

There appears to be little doubt that cylinder liner and piston ring wear is the result of abrasion caused by actual metal-to-metal contact and of corrosion or erosion by such products of fuel and lubricating oil combustion or oxidation as water, carbon dioxide, acids, etc. There is some disagreement, however, as to whether abrasion or corrosion plays the major role and as to just where the lubricating oil fits into the composite wear picture.

On the whole, wear does not appear to be a serious problem in the currently produced automotive types of gasoline engines when operated on uncompounded well refined mineral oils. The question of wear in certain aviation engines and in Diesel and semi-Diesel engines, however, is not as clearly defined.

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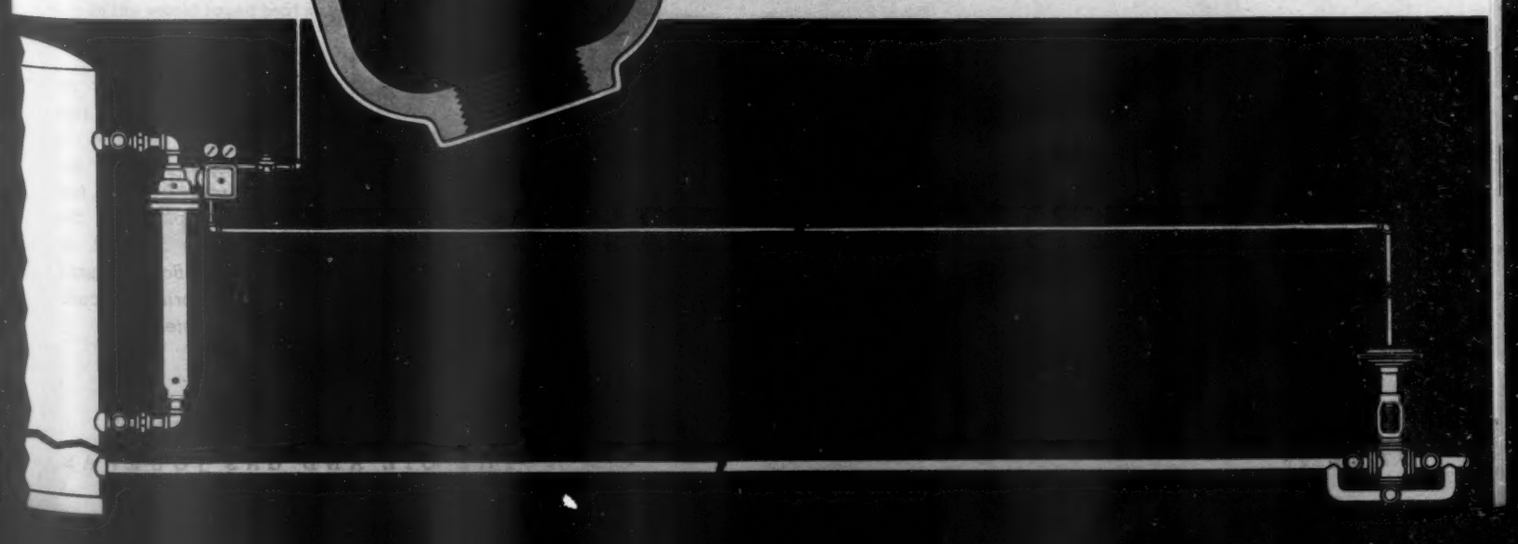


Adopt Gas Lift in Cotton Valley to Meet Declining Pressures

By GEORGE WEBER

Gas lift is being generally adopted as an efficient means of artificial lift in the Holloway sand production of Cotton Valley, in North Louisiana. Most wells producing from this horizon are still on flush production, but declining pressures will accelerate the trend of artificial lift in the next few months. Anticipating this, one operator has begun the practice of completing new Holloway wells already equipped for gas lift.

A major factor favoring the use of gas lift in the field is the large reserve of high-pressure gas from the deep Bodcaw sand of the lower Marine formation. This sand, of primary importance in the field, produces gas and distillate. The Holloway horizon, in the Travis Peak formation has been developed as a secondary sand. The crude averages 50 to 51 gravity and is a sweet, green oil with a good gasoline fraction.

The irregularity of the Holloway sand throughout the field, and its variable thickness, have retarded uniform development of the horizon. However, as an alternate for production in the 8,500-ft. Bodcaw sand, the Holloway at 5,700 ft. has seen more development than it would warrant alone. The deeper sand is developed on an 80-acre spacing pattern, while the Holloway sand pattern is based on 40-acre units. Therefore, if the operator, upon reaching the Holloway, finds sufficient sand to make a good commercial producer, he completes at that horizon and drills a second well on the 80-acre tract, which may be completed either as another Holloway well or deepened for a Bodcaw producer.

The Hunt Oil Co., major producer in the Holloway sand, has followed the practice of completing a well in the Holloway sand wherever possible. The company now produces a total of 22 such wells, totaling over 2,500 bbl. of daily allowable production. The present field allowable for all wells in that horizon is 4,000 bbl. daily. All wells making 175 bbl. or less are allowed to produce their full potential production. Those producing over that rate are prorated 75 per cent on acreage and 25 per cent on potential.

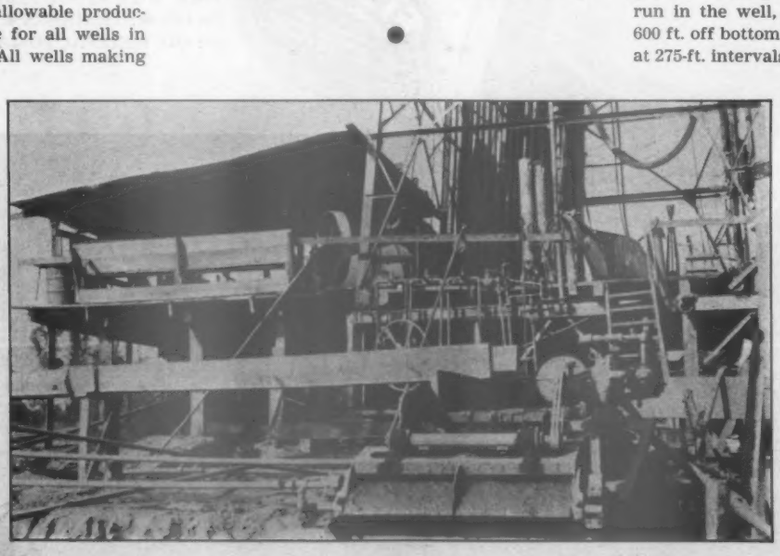
While so far only four wells of the more than a score discussed have been equipped for gas lift, it is expected that the declining pressures anticipated will accelerate the trend that is now under way.

It is, therefore, good operating practice to maintain Holloway wells at the largest possible potential production, in order to keep allowable production at a maximum. Gas lift, installed as a series of flow valves, can be used to flow wells which have declined in production below the 175-bbl. limit, thus raising the present output.

Of the 22 Holloway wells which the Hunt Oil Co. has equipped for gas lift, only four are thus far using the artificial lift. Before installing the valves, a thorough study of the lower bottom-hole pressure was made. These surveys, taking into consideration the sand porosity, permeability, oil gravity, and viscosity, gas-oil ratios and fluid levels formed the basis for the present practice of gas lift, the type of valves used, and their spacing in the hole.

In all Cotton Valley wells, either Holloway or Bodcaw producers, a string of 9⅝-in. casing is set in the Travis Peak formation. This string serves as an intermediate string for Bodcaw wells and as a producing string for Holloway wells, allowing for deepening if future developments at greater depths justify. Formerly the casing was set through the Holloway sand, and production was obtained through perforations. However, the efficient methods of time drilling, examination of cuttings, and electrical logging now give operators exact data on the sand, and most Holloway wells are currently completed with casing set above the sand.

On the Hunt wells, which are now equipped for gas lift at completion, the 2½-in. tubing string is run in the well, with the deepest flow valve set 600 ft. off bottom and the five additional valves set at 275-ft. intervals up the string. Wells are brought



In circle, above: Holloway sand well in Cotton Valley field, equipped with valves for gas lift. Many wells are so equipped on completion although they may have a considerable flowing period

Left: Holloway wells require the same heavy rigs for drilling, because in many cases it is not known whether the test will be completed in the Holloway at 5,700 ft. or the 8,500-ft. Bodcaw until the upper horizon is completed

FINE PARTS GIVE LONG LIFE TO AXELSON PUMPS

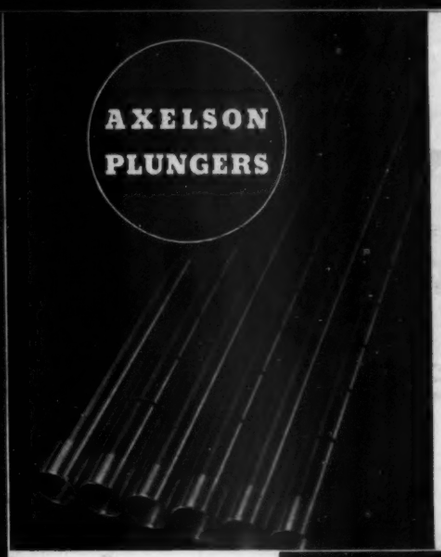
It's the little things that add up big. Twenty-five millionths of an inch is too little to be seen on a scale, but it's the limit in passing Axelson balls for size and roundness. Comparable accuracies are built into Axelson seats so that when the ball seats, it permits the maintenance of an almost perfect vacuum.

The faces of Axelson liners are so accurately squared and polished that when a dozen or more are stacked end on end they make an absolutely straight line and are air-tight at the joints.

Axelson plungers are as straight as a beam of light, and are polished to a mirror finish. This makes them work in the liner assembly with the least possible friction and loss of expensive power.

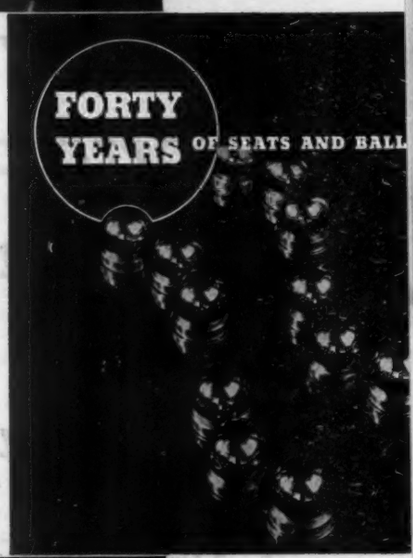
Add up all the Axelson accuracies in little things and you get the big advantages of Axelson practical performance by which you profit in low cost of production and minimum loss of time. Producers in every oil field in the world found that out long ago—to their profit.

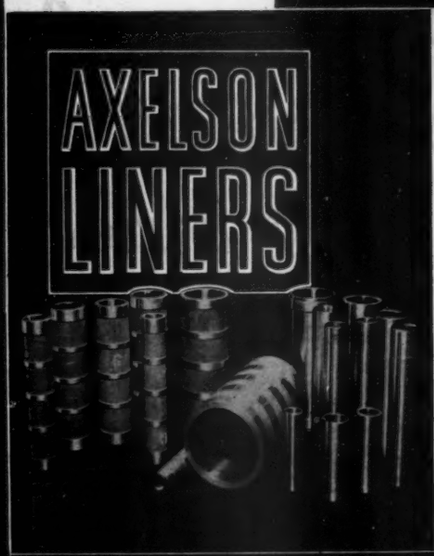
THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY



It takes a sixteen-page booklet to tell the mere outline of how Axelson plungers are made and why. It takes hundreds of thousands of dollars' worth of machines and equipment to make Axelson plungers the way they are. It has taken forty years of constant study and engineering progress to arrive at the refinements that are found in this single part of an Axelson pump, but it is these refinements and the refinements in all other Axelson pump parts that bring economy and dependability in the lifting of oil everywhere.

Seats and balls are responsible for the heart action of deep well pumps. Twenty to sixty thousand times a day the ball in every cage of a pump comes down *smack* on the seat under a pressure that may be as high as 3000 pounds to the square inch. It takes real metal in both seat and ball to stand up. In forty years, Axelson has found not one metal and not one process with which to meet this condition, but has found many metals and many processes with which to meet any condition.





In the casting of liners, Axelson operates its own *controlled* foundry, in which one single piece of equipment is worth three or four times the value of an average trade foundry. It takes a thirty-six page booklet to tell how Axelson originated the first interchangeable liner and how Axelson liners are now made. There's a reason for everything that is done in the Axelson foundry, and all the reasons added together mean longer life and more economical production when you use Axelson pumps.

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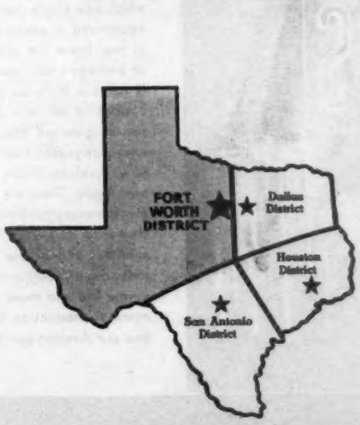
Two-thirds of all oil operations under way in Texas on May 1, 1939 were in the Fort Worth district.* There were more completions in this district in April than in Kansas, Oklahoma, Arkansas and Louisiana combined.* Come where there's action! Locate in Fort Worth.



FOR FURTHER INFORMATION—BOOKLETS and DATA WRITE THE

CHAMBER of COMMERCE

FORT WORTH

Heart of the Mid-Continent Area

* THE OIL AND GAS JOURNAL MAY 25, 1939

in by reverse circulation, pumping mud, followed by water, then gas, down the annular space between casing and tubing, until the well is cleaned through the tubing.

The Bryan valves are set for a differential casing and tubing pressure of 50 lb. A pressure of 375 lb. is held on the casing at the surface. As long as the well flows with a tubing pressure less than the 50-lb. differential, as compared with the casing pressure, gas lift is not required, and the valves remain locked. Gas lift becomes automatic as soon as the well requires an artificial lift, or kickoff, and the changeover is effected without downtime, or additional work on the well.

Gas furnished to the casing of these wells comes from the company's 450-lb. field system which furnishes fuel from Bodcaw wells for drilling rigs and other requirements. In those wells which are now using gas lift, the daily input seldom exceeds 25,000 cu. ft., representing a very small fraction of the available gas in the field, and gas-oil ratios, including the Holloway gas, are kept to a low figure.

It is expected that gas lift, as used in this system, will produce the Holloway wells to exhaustion. As installed at the present time, the valves will serve to flow the wells for a long time. Continuously lowered fluid levels and the possible influx of water will probably eventually require the resetting of valves and possibly the use of packers. For the present and many months to come, however, wells so equipped will produce at a maximum potential and allowable rating and will need little maintenance.

Holloway Sand

Although discovered in 1936, the Holloway sand was not actively developed until early in 1938. The discovery well, which produced 185,000 bbl. of crude during 1937, remained the sole producer in the sand during that period, while active drilling penetrated to the deeper Bodcaw horizon. In 1938, however, 30 wells were completed in the sand, and the production rose to a high of 6,275 bbl. daily in September. Declining pressures have cut potentials, and at the present time, with 37 wells, the Holloway is producing its full 4,000-bbl. allowable. The total accumulated production to date will approach 2,500,000 bbl.

Reserve estimates are difficult to obtain on the Holloway sand, due to its erratic deposition. Conservative figures average about 3,000 bbl. per acre, based on an average thickness of 10 ft. Approximately 3,500 acres are now proven to production in that sand, and the total estimated reserves may be placed at 10,000,000 bbl. Thus, several million barrels remain to be produced, and a large share of that recovery will be effected through artificial lift, under methods already undertaken.

Lincoln Foundation Papers On Oil-Field Equipment

Oil-field equipment is one of the subjects for original study in the new book, "Arc Welding in Design, Manufacture and Construction," just published by the James F. Lincoln Arc Welding Foundation, Cleveland, Ohio. These studies, carried out by men who are well known in the oil industry, are outstanding contributions in the recent $200,000 award program. Altogether, the book contains 109 award papers.

Decision to publish "Arc Welding in Design, Manufacture and Construction" was reached by trustees of the Lincoln Foundation at a meeting last fall. Feeling that the award papers constitute a valuable source of information on welding, the trustees decided to make the material generally available. The book has been under preparation for 6 months.

With few exceptions, the papers are reproduced in complete form. Only those which were too lengthy for inclusion in their entirety are in the form of comprehensive briefs. All photographs and drawings essential to a clear and adequate presentation of each subject are included. Each study includes designs, calculations, procedures and other pertinent information showing how the advantages attributed to arc-welded construction are obtained.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Consumption of Gasoline and Oil in Motor Vehicles

What is the consumption of lubricating oils and greases compared with gasoline in motor vehicles? If available, the figures covering a year will be of assistance.—E. S. T.

The American Petroleum Institute has made surveys of gasoline and lubricating-oil consumption in motor vehicles, the information being collected by means of answers to questionnaires sent to operators of fleets in different parts of the United States.

GASOLINE AND OIL CONSUMED IN MOTOR VEHICLES

Vehicles—	Number of vehicles	Gasoline used (Millions of gallons)	Oil used (gallons)	Gasoline to oil ratio (gallons)*	Per cent oil to gasoline
Passenger cars	8,657	12.86	431,827	30 to 1	3.36
Trucks	11,184	23.20	645,404	36 to 1	2.78
Cars and trucks	4,270	6.85	164,095	42 to 1	2.39
Buses	2,175	19.63	340,370	58 to 1	1.73

*Approximate round figures.

This survey, made in 1934, does not reflect the average per vehicle consumption of gasoline, which is estimated at about 665 gal. for the year, while this survey reports 2,002 gal.

The consumption of chassis greases was shown in the ratio of 1.56 lb. per 100 gal. of gasoline.

No Relation Between Distillate Data and Octane Rating

Would you tell me if there is any relation between the distillation curve of a motor fuel and its own octane rating?—T. N.

As a broad generalization, it may be stated that there is no relation between the distillation characteristics of a motor fuel and its octane rating. Variations of 10 octane numbers are common for gasolines of identical endpoints and in some instances the difference may be so large as 30 octane numbers.

When the technologist is examining gasoline from the same source day after day, he will be able to estimate very closely from the distillation test data what the test will show for octane value of a specific gasoline. However, he cannot be at all definite in this respect when the data relate to an unknown product.

Cubic Content of Chambers of Vapor Pressure Apparatus

Kindly give us whatever information you can as to the standard method of taking vapor pressure measurements on natural gasoline. We would like to know the volume in the lower and upper portions of the vapor pressure bomb and ratio between gasoline volume and vapor volume.—J. E. W.

The method for determining vapor pressure of petroleum products is too long to be reproduced here. It is described in detail in A.S.T.M. Standards on Petroleum Products, Page 238, 1938.

Volumetric capacity of the two chambers is usually obtained by filling with water and then measuring its volume. Both chambers are 2 1/16 in. internal diameter, the smaller 2½ in. long and the larger one 10 in. Reducing these measurements to volumes, the smaller one has a capacity of 136+ cc. and the larger 547+ cc.; the ratio being 4.02.

The 1938 revision of the method states: The ratio of the volume of the air chamber to the volume of the gasoline chamber shall be between the limits of 3.8 and 4.2. To determine the volume of the air chamber, insert a ¼-in. plug in the gage coupling, invert the chamber, fill with water up to and including the portion of the coupling device attached permanently to the air chamber and then carefully measure the volume of water. To determine the volume of the gasoline chamber, fill with water up to and including the portion of the coupling device attached permanently to the gasoline chamber, and then carefully measure the volume of water.

In determining capacities for apparatus . . . the capacity of the gasoline chamber shall be considered as that below the gate-valve closure. The volume above the gate-valve closure including the portion of the coupling permanently attached to the gasoline chamber shall be considered as a part of the air-chamber capacity.

Physical and Chemical Laws and Principles Used in the Petroleum Industry

MOLECULE

(Smallest part of a compound)

The molecule is the smallest part of a compound that can exist. It is indicated by a chemical formula, as H_2O for water; CH_4 represents methane, and C_2H_6 indicates a molecule of ethane. The meaning of these is: Two atoms of the element hydrogen (H) combine with one atom of the element oxygen (O) to form water; one atom of the element carbon (C) unites with four atoms of hydrogen to produce a molecule of methane; two parts of carbon combine with six of hydrogen to make the compound ethane.

The petroleum industry is concerned chiefly with hydrocarbon molecules, containing only carbon and hydrogen, the simplest of which is methane. The proportion of these two elements and their arrangement in the molecule produces the numerous hydrocarbons.

Production and Value of Fuller's Earth and Use by Contact

What is the quantity and value of fuller's earth produced in the United States? Do you have any description of a new process which adapts fuller's earth for the contact method for treating lubricating oil?—H. R. F.

The U. S. Bureau of Mines has reported the condition of the fuller's earth industry in M.M.S. No. 732, from which this information has been obtained.

The trend to use smaller quantities but better qualities of bleaching clays is reflected in a drop of 24 per cent in the consumption of fuller's earth in 1938. Production of natural bleaching clays declined to 170,852 short tons valued at $1,707,869, compared with 226,165 tons worth $2,296,094 in 1937.

The average value in 1938 was $10 a ton at the mines. Prices vary according to size, fine material being relatively cheap. Quotations for Georgia or Florida earth, f.o.b. mines, have remained unchanged for several years at $14.50 per ton for 30-60 mesh, $14 for 15-30, $10 for 200 up and $7 for 100-mesh up.

This same report mentions a special treatment of fuller's earth to be used for contacting. "Spurred by growing competition the fuller's earth industry has striven to improve its products. It is significant that three of the largest producers are concerned with marketing bauxite for oil refining and one of them is a copartner in the domestic activated earth industry. However, the adsorptive power of the Georgia-Florida type (montmorillonite) itself is being increased 20 per cent by an extrusion treatment. The moistened clay is kneaded and then forced through slots, very much as common bricks are formed in an auger machine. This process not only makes a better product but permits virtually complete recovery of all the clay in granular form suitable for percolation methods of oil refining, enhancing its value further."

Fuel Consumed in Oil Refineries During Year 1937

I wish to know how much of the several fuels, coal, oil, and gas, is used in American oil refineries per year. If you have this information it will be of considerable help in our survey.—C. O. L.

The U. S. Bureau of Mines makes an annual survey of the fuel consumption in the petroleum refineries of the United States. The data here are from the report covering the year 1937.

FUEL CONSUMED IN U. S. REFINERIES

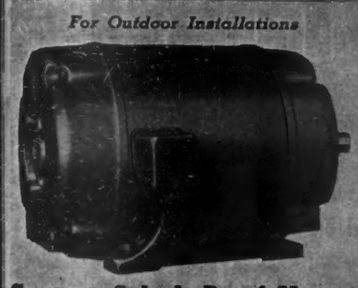
Fuel—	Quantity consumed	B.t.u. value
Oil	27,849,000 bbl.	6,000,000/bbl.
Acid sludge	4,750,000 bbl.	4,500,000/bbl.
Coal	1,209,000 short tons	26,000,000/ton
Natural gas	113,405,000 cu. ft.	1,050/cu. ft.
Refinery gas	224,698,000 cu. ft.	1,400/cu. ft.
Coke	84,000 short tons	30,000,000/ton

In addition 1,310,589,000 kw.-hr. electricity were required by the refineries during the year.

The average heat requirement per barrel of oil charged to stills was 554,000 B.t.u.

Reference: G. R. Hopkins, Survey of Fuel Consumption at Refineries in 1937, U. S. Bureau of Mines, R.I. 3,430.

Century's Motor Specialization + Correctly Engineered Application = Satisfaction and Economy



For Outdoor Installations

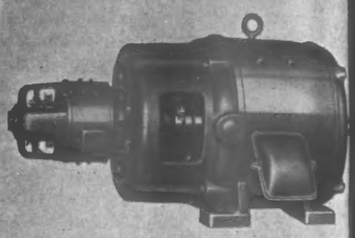
Century Splash Proof Motors

For General Purpose Applications

Century Squirrel Cage Motors

For Refineries

Century Explosion Proof Motors



For Auxiliary Power Plants

Century Generators

Century SCT Motors help you solve these problems—Shock—Breakage—Wear—Maintenance Costs—

In the field where the going is tough you'll find Century motors on the job day in and day out, setting new records for dependability — continuous operation.

On Pumping Units

Take the Century Type SCT Splash Proof Pumping Unit Motor for instance. This motor provides the necessary high torque to start a heavy load and is designed with high slip to pull the motor speed down when the load comes on.

When the load is light on the pump stroke the motor speeds up and stores up useful energy in the flywheel action of its own armature and in the pumping unit counter-weight. The motor slows down against the maximum power peaks, cushioning the impact and using the stored energy in the armature and counter-weight. This shock absorbing action means less trouble and low maintenance costs to equipment. These design and operating features of —

Century Motors Assure You —

1. A cushioning action that increases the life of belts, gears, chains, bearings and other vital parts.
2. High starting torque — a real help when parts are stiff during winter operations.
3. Higher efficiency — more starting torque with less starting current.
4. Smoother power demand. Each pump stroke causes a smaller variation in current and consequently a smaller drop in line voltage.
5. And satisfaction when the splash proof motor is installed outdoors through protection against rain, snow, ice and dust.

For Every Oil Field Application

The special application of motors for most efficient operation is Century's entire business! 35 years of design and application engineering assure you correct motoring on every job.

Century's extensive line of standard motors in types and ratings up to 600 h.p. begins with fractional h.p. motors from 1/100 h.p. and covers wide industrial applications. Special motors are available for special requirements and surroundings.

It will pay you to standardize on Century motors for every application.

CENTURY Service—For complete information call your regular supply store or the Century Motor Specialist nearest you. He is *your* consulting engineer on motor problems. Century Branch Offices are conveniently located in 31 key centers.

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FIELD OPERATIONS

Summarizing the Week's Developments

OKLAHOMA—An Earlsboro sand producing area was opened northeast of the Gray pool, Pottawatomie County. A Prue sand pool was opened in northeastern Osage County. The twenty-ninth producer in the Ramsey pool, Payne County, made potential of 5,024 bbl. Hunton lime was found productive in the Coyle pool, Payne County.

KANSAS—Gas production was uncovered in Sherman County, about 20 miles from the Colorado line; and in Johnson County, about 20 miles from the Missouri line. Discovery wells were completed in Norton and Barton counties. Deep wildcat tests were started in Douglas and Atchison counties, Forest City basin area. An 11,438-bbl. well was completed in Hittle pool, Cowley County.

TEXAS: Gulf Coast—An important test on a block of several thousand acres in San Jacinto County was dry and abandoned in the Wilcox (Tertiary) zone at 7,512 ft. Magnet-Withers field in Wharton County was extended a mile northeasterly.

Southwest Texas—Two prospective new pools in Refugio and San Patricio counties, and disappointing tests of two outposts to the Clara Driscoll extension to the South Alfred field in Jim Wells County, were features. A wildcat 2½ miles northeast of the Tomoconnor field in Refugio County looms as a discovery well.

North and Eastern Texas—An Ordovician test in Montague County was a failure at 5,489 ft. It was drilled in the Nocona pool. The Burns pool in Clay County was extended 1¾ miles. Archer County's new Caddo lime discovery well flowed 830 bbl. in 15 hours. The offset to the discovery well in the Mabank pool in Henderson County flowed at the rate of 372 bbl. a day. A drilling well in the Leon County side of the Navarro Crossing pool is showing salt water at 5,881-84 ft.

West Texas—A wildcat flowing 75 to 100 bbl. in 2¼ hours opens a pool on the Page ranch in Schleicher County, 10 miles west of Eldorado, total depth 5,747 ft. The North Cowden pool in Ector County has prospects of two extensions. The Dunes pool in Crane County was extended ¾ mile northwesterly.

West Central Texas—A wildcat in Shackelford promises to be the largest producer ever found in that county. It is variously estimated up to 5,000 bbl. a day. It flowed 250 bbl. in 1 hour. It is on the west side of the Ivy pool and produces from the Palo Pinto lime pay.

LA-ARK-TEX—Several coastal Louisiana wildcats are in the testing stage in St. James, St. Charles, Iberville, Allen and Jefferson Davis parishes. Two gas distillate discoveries were made in Panola County, Texas, and Bienville Parish, Louisiana. Two wildcats in Arkansas were abandoned, one in Columbia, the other in Union County.

MICHIGAN—A new record for the year in completed wells and scheduled new operations was made last week in Michigan. Kent County pools are gaining in importance.

ILLINOIS—Deep-sand production in Wabash County and prospects of new pools in Franklin and Bond counties and an unusual number of oil wells completed last week were features. Production of the state showed a falling off of 1,750 bbl. per day. The Salem pool ranked next to East Texas in production for the week, with an average in excess of 115,000 bbl. a day.

Completions in All Fields

(Week Ending June 3, 1939)

	Oil	Gas	Dry	Total	1939 total comp. to date	1938 total comp. to date
N. Y., Pa., and W. Va.	44	12	1	57	1,277	1,765
Ohio	5	8	7	20	380	393
Indiana	1	0	0	1	75	38
Kentucky	5	12	4	21	263	335
Illinois	76	0	11	87	1,416	423
Michigan	26	1	16	43	540	332
Kansas	23	1	7	31	472	764
Oklahoma	27	3	11	41	763	741
Texas:						
North Central Texas	26	2	31	59	997	1,326
West Texas	38	0	4	42	796	991
Texas Panhandle	3	1	0	4	160	271
East Texas	13	0	0	13	225	979
East Central Texas	2	1	0	3	108	154
East Texas Border	0	1	2	3	30	75
Gulf Coast Texas	26	3	5	34	587	534
Southwest Texas	33	0	25	58	1,023	912
Total Texas	141	8	67	216	3,926	5,242
North Louisiana	16	1	9	20	230	242
Gulf Coast Louisiana	3	0	2	5	233	207
Total Louisiana	13	1	11	25	463	449
Arkansas	5	0	3	8	102	113
Montana	3	0	0	3	55	34
Wyoming	2	0	0	2	41	73
Colorado	0	0	1	1	4	4
New Mexico	8	0	4	12	251	245
Utah	0	0	0	0	0	0
California	14	0	4	18	397	579
Total United States	393	46	147	586	10,425	11,530
Total previous week	360	38	115	513		
Week ending June 4, 1938	354	23	122	499		

Outstanding Fields—Highlights

(Week Ending June 3, 1939)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	28	56	5	5,770	1,004	23,198
Wasson-Bennett	18	46	9	6,778	296	14,727
Ector County	9	41	12	12,939	1,710	47,700
Winkler County	2	10	1	680	1,804	39,250
Howard-Glasscock	5	9	0	0	1,069	17,148
East Texas	11	29	13	586	25,901	447,000
OKLAHOMA						
St. Louis	5	24	7	796	832	36,750
Cement	3	11	0	0	258	4,970
KANSAS						
Barton County	4	15	5	1,126	430	11,160
Ellis County	3	12	2	845	385	7,670
Rice County	5	24	5	1,315	1,322	30,005
Russell County	5	23	2	1,065	1,238	22,775
NEW MEXICO						
Lea County	7	69	8	1,780	2,133	106,950
LA-ARK-TEX						
Magnolia, Ark.	0	12	3	1,615	27	7,410
Cotton Valley, La. (deep)	0	6	2	980	130	13,040
Jennings, La.	1	5	0	0	134	24,990
MICHIGAN						
Freeman-Redding	6	33	1	500	88	13,461
Walker, Kent County	6	18	7	6,350	0	5,353
ILLINOIS						
Central Illinois	38	349	76	14,001	3,208	207,880
CALIFORNIA						
Wilmington	5	24	5	8,166	636	91,250
KENTUCKY						
Birk City	2	13	0	0	126	2,765

Illinois and Kentucky

By STAFF CORRESPONDENT

Four New Pools in Prospect in As Many Illinois Counties

CENTRALIA, Ill., June 5.—Continental Oil Co. No. 1 C. E. Shultz, in Wabash County, flowed 45 bbl. of crude in 5 minutes in a test made on May 30, with the well a total depth of 2,492 ft., in Cypress sand, indicating the discovery of a new producing horizon in the Cowling area. Previous production in the Cowling pool has been from the Biehl sand at 1,710 ft.

The Shultz well, in the SE SE NW Section 30-2s-13w of second principal meridian, is 2½ miles northeast and across the Wabash River from the Cooper pool, in Gibson County, Indiana, where production has been found in the Cypress sand at 2,500 ft. and in the McClosky lime at 2,875 ft.

Continental's discovery was made following extensive core-drilling exploration of the territory. The Cypress sand was reached at 2,467 ft. and extends to 2,491 ft. The crew will run tubing with packer preparatory to making a full test of the well sometime in the next few days. Continental holds a block of 2,074 acres surrounding the well. R. I. Hays No. 1 Schultz, SE NW SW Section 7-3s-13w, total depth 2,881 ft., had 5½-in. casing set at 2,865 ft. It was acidized with 1,500 gal. and swabbed 80 bbl. of oil in 4 hours. The crew was preparing to put it on the pump.

New work in the county included Colonel Hughes No. 1 Tanquary Brothers, SW SW NE Section 30-1s-13w, rig up; T. C. Knight No. 1 Hoffman, SW NW NE Section 29-2s-13w, a location. William M. Bartlett No. 1 Winnifred Gray, NW NW SE Section 30-2s-13w, location.

Gulf Oil Corp. No. 1 Hinman, in Section 19-5s-3e, Franklin County, a wildcat, swabbed 120 bbl. of oil and a little water in 14 hours from McClosky lime pay bottomed at 2,878 ft. It was not a completed well. This is the first oil produced in Franklin County.

Eason Oil Co. has an encouraging looking wildcat in Bond County, No. 1 Zink, in Section 24-4n-3w. Pipe was set above Cypress sand at 1,121 ft. It is believed this well will make a commercial producer.

Arthur Harvey's second well in the Tonti area in Marion County was being completed as a commercial well, and he is making ready to drill a third well. The lease is in Section 33-2n-2e and is producing from McClosky lime.

76 New Oil Wells

Seventy-six oil wells were completed in Illinois in the past week in review, and 11 dry holes, a total of 87 completions, which indicates that the fields have hit their summer stride and that from this on until winter the Sucker State will be one of the busiest producing divisions in the country.

Fayette County led in the number of oil wells completed, 34, with a total initial production of 6,190 bbls. Marion County had 24 new oil wells and 4,366 bbl. in initial production. The greater part of the Marion County wells were gaged only 3 hours. Several wells were completed that had a potential production of from 1,000 to more than 5,000 bbl. per day, but these, like most of the others, are credited with only their short-time flow. Other counties recorded the following results: Clay County, three wells, 1,966 bbl.; Washington County, five wells, 474 bbl.; Wayne County, five wells, 612 bbl.; Richland County, one well, 221 bbl.; Jefferson County, one well, 60 bbl.; Wabash County, one well, 80 bbl.; McDonough County, one well, 7 bbl.; Clark County, one well, 25 bbl. Fayette County had three dry holes; Clay, one; Jefferson, one; Washington, one; Moultrie, one; Shelby, one; St. Clair, one; Lawrence, one; White, one.

In the Salem Field

In the Salem field in Marion County, Texas Co. No. 10 Easley, NE cor. NW SW NE Section 33-2n-2e, Benoist sand at 1,824-75 ft., shot with 30 qt., flowed 64 bbl. in 3 hours, rated at 448 bbl. per day. Texas No. 9 Parker, NW NE NE Section 33-2n-2e, Benoist sand top 1,740 ft., total depth 1,793 ft., flowed 27 bbl. in 3 hours, rated at 196 bbl. a day. Texas No. 2 Reynolds, NE SE NE Section 32-2n-2e, Benoist at 1,731 ft., total depth 1,788 ft., flowed 21 bbl. in 3 hours, rated at 147 bbl. a day. Texas No. 5 Miller, SW NE SE Section 32-2n-2e, Benoist at 1,749-1,802 ft., flowed 42 bbl. in 3 hours, rated at 294 bbl. a day. Texas No. 4 Hopkins, NE NW SW Section 32-2n-2e, Benoist at 1,649-1,709 ft., flowed 94 bbl. in 3 hours, rated at 658 bbl. a day. Texas No. 13 Wayman, NW NE NE Section 31-2n-2e, Benoist at 1,709-61 ft., flowed 54 bbl. in 3 hours, rated at 378 bbl. a day. Texas No. 5 Dunning, SW SE SE Section 30-2n-2e, Benoist at 1,718-67 ft., flowed 313 bbl. in 3 hours, rated at 2,191 bbl. a day. Texas No. 5 R. Shanafelt, NE NE NE Section 29-2n-2e, McClosky lime at 1,932 ft., total depth 2,040 ft., flowed 299 bbl. in 3 hours; acidized with 4,000 gal. flowed 612 bbl. in 3 hours, rated at 5,684 bbl. per day. Texas Co. No. 10 N. Lee, NW SW SW Section 28-2n-2e, Benoist top at 1,730 ft. and Aux Vases top at 1,778 ft., total depth 1,839 ft., shot with 65 qt. at 1,755-95 ft. and with 45 qt. at 1,790-1,835 ft., flowed 88 bbl. in 3 hours, rated at 616 bbl. a day. Texas No. 10 Chapman, NW cor. NW SW SW Section 28-2n-2e, Benoist top at 1,760 ft.; Aux Vases top at 1,818 ft., total depth 1,870 ft., shot with 20 qt. at 1,785-1,805 ft. and with 70 qt. at 1,815-65 ft., flowed 296 bbl. in 3 hours, rated at 2,072 bbl. a day. Texas No. 13 D. Young, C N½ SW NW Section 21-2n-2e, McClosky at 1,993-2,076 ft., acidized with 3,000 gal., flowed 212 bbl. in 3 hours, rated at 1,484 bbl. a day. Texas No. 13 N. Young, SW cor. SE NE Section 20-2n-2e, McClosky at 1,947-70 ft. and 2,020-23 ft., acidized with 3,000 gal., flowed 200 bbl. in 3 hours, rated at 1,400 bbl. a day. Texas No. 12 N. Young, SW cor. SE SE NE Section 20-2n-2e, Benoist at 1,749 ft., shot with 20 qt. at 1,770-90 ft. and with 85 qt. at 1,830-78 ft. (Benoist and Aux Vases sands), flowed 192 bbl. in 3 hours, rated at 1,344 bbl. a day. Texas No. 7 N. Young, CN½ SE NE Section 20-2n-2e, McClosky lime at 1,950-68 ft., acidized with 3,000 gal., flowed 311 bbl. in 3 hours, rated at 2,177 bbl. a day. Magnolia Petroleum Co. No. 18 W. B. Young, SW cor. SE SW NE Section 20-2n-2e, McClosky at 1,921-2,030 ft., acidized with 4,000 gal., swabbed 288 bbl. in 24 hours. Texas No. 17 E. Gett, NE cor. SW SE Section 16-2n-2e, McClosky at 2,064-2,111 ft., acidized with 3,000 gal., flowed 30 bbl. in 3 hours, rated at 210 bbl. a day. Texas No. 10 E. Gett, CNL NE SW SE Section 16-2n-2e, McClosky at 2,051-85 ft., acidized with 3,000 gal., flowed 58 bbl. in 3 hours, rated at 406 bbl. a day. Potter Brothers No. 6 M.&I.R.R., NW NE SE Section 16-2n-2e, McClosky at 2,057 ft., acidized with 3,500 gal., flowed 980 bbl. in 24 hours, through tubing.

Kingwood Oil Co. No. 5 Devor, NW NW NW Section 17-1n-2e, shot with 15 qt. at 1,856-70 ft., Benoist sand, flowed 313 bbl. in 24 hours. Texas Co. No. 25 City of Centralia, NE SE NW Section 9-1n-2e, Benoist at 1,867-89 ft., flowed 21 bbl. in 3 hours, rated at 147 bbl. a day. Texas No. 19 L. Hawthorne, Benoist at 1,828-41 ft., Renault at 1,841-56 ft., pumped 20 bbl. in 3 hours, rated at 140 bbl. Texas No. 2 W. Carr B, NW NE NE Section 7-1n-2e, Benoist at 1,708-45 ft., flowed 80 bbl. in 3 hours, rated at 560 bbl. a day. Texas No. 11 J. O. Richardson, SE SE NW Section 5-1n-2e, McClosky at 1,921-29 ft., acidized with 3,000 gal., flowed 208 bbl. in 3 hours, rated at 1,456 bbls. a day. Texas No. 10 J. O. Richardson, SW cor. SE SE NW Section 5-1n-2e, McClosky at 1,932-62 ft., acidized with 3,000 gal., flowed 115 bbl. in 3 hours, rated at 805 bbl. a day. Texas No. 20 Hawthorne, NW NE SE Section 5-1n-2e, Benoist at 1,766-1,805 ft., flowed 60 bbl. in 3 hours, rated at 420 bbl. a day.

In St. Clair County, A. F. Anding No. 1 Gutterman, SE SE NW Section 31-1n-8w, was abandoned at 229 ft.

In Wayne County, D. Davis No. 1 Carlson, C N½ SW SW Section 34-1s-7e, Ste. Genevieve lime top at 3,150 ft., pay at 3,254-61 ft., flowed 38 bbl. in 24 hours, through 11/64-in. choke. Pure Oil Co. No. 1 Trotter, C E½ NW NW Section 10-1n-8e, Fredonia lime top at 3,060 ft., pays at intervals from 3,060 to 3,123 ft., acidized with 2,250 gal., pumped 81 bbl. of oil and 60 bbl. of water. Pure Oil Co. No. 2 McCracken A, NE NW NE Section 4-1n-8e, is a 50-bbl. well at a total depth of 2,957 ft., plugged back from 3,116 ft. Pure No. 1 J. A. Johnson B, C E½ SE SE Section 4-1n-8e, Fredonia pay at 3,028-35 ft., acidized with 5,000 gal., flowed 143 bbl. Pure Oil Co. No. 2 Rogen, C W½ SW NE Section 30-2n-8e, Fredonia lime top at 3,005 ft., pay at 3,018-22 ft. and 3,055-57 ft., and streaks of oil showings at 3,057-86 ft., acidized with 7,500 gal., flowed 300 bbl. of oil.

In Lawrence County, Ford & Wagner No. 3 Ackman, C E½ SE SW Section 1-2n-12w, sand with a small showing of oil at 307-20 ft., abandoned as dry.

Fayette County

In Fayette County, a wildcat, L. V. Garnier and others No. 1 Wade, NE NW SE Section 31-5n-4e, was dry and abandoned at 2,418 ft., Fredonia lime top at 2,300 ft. In the Louden area, Johnson Drilling Co. No. 1 Logue, SE SE SW Section 18-7n-3e, a wildcat, was dry and abandoned at 1,581 ft. It had a showing of oil at 1,543-46 ft. Carter Oil Co. abandoned No. 3 Sidener, SE SW SE Section 19-7n-3e, at 1,577 ft. It was dry after shots at 1,548-54 ft. and 1,546-54 ft.

Schulman Brothers No. 1 Combe, SW NW SW Section 6-6n-3e, Cypress sand at 1,552-70 ft., shot with 30 qt., pumped 180 bbl. in 12 hours. Irl Rhynes, receiver, No. 1 Koberlin, NE NE SE Section 5-7n-3e, Bethel sand at 1,579-87 ft., shot with 10 qt. on bottom, pumped 192 bbl. Rhynes No. 2 Koberlin, NW NE SE Section 5-7n-3e, Bethel at 1,550-63 ft., shot with 10 qt., pumped 124 bbl. Schulman Brothers No. 2 Combe, NW SW SW Section 6-6n-3e, Cypress sand at 1,562½-78 ft., shot with 20 qt., estimated at 250 bbl. a day. Carter Oil Co. No. 3 Goodson, NW SW NE Section 7-7n-3e, Bethel sand at 1,570-82 ft., shot with 20 qt., swabbed 320 bbl. Carter Oil Co. No. 3 Williams, SE NE SW Section 7-

Illinois Fields

HIGHLIGHTS OF THE WEEK: New pay-sand discovery in Wabash County, and prospective pools in Franklin and Bond counties and extension of the Tonti pool in Marion County, were features of the week. The McClosky lime pay in the Salem pool yielded several wells good for from 1,000 to upwards of 5,000 bbl. a day. The completions were unusually many and point to a continuance of great activity in the state this year. The Salem pool produced 115,000 bbl. a day and the Louden pool 44,000 bbl. a day last week.

Daily average production of new pools, 207,880 bbl.; old fields, 8,495 bbl.; total, 216,375 bbl.

Total operations, including locations, rigs and wells drilling, 446.

7n-3e, stray sand at 1,573-84 ft., shot with 20 qt., swabbed 216 bbl. Carter No. 1 Williams, SW NW SE Section 7-7n-3e, stray sand at 1,551-74 ft., shot with 30 qt. and with 60 qt., a 5-bbl. pumper. W. C. McBride, Inc., No. 6 Logue, SE cor. NE SW NW Section 8-7n-3e, Cypress pay at 1,465-85 ft., shot with 40 qt., estimated good for 150 bbl. a day. McBride No. 7 Logue, SE SW NW Section 8-7n-3e, Bethel sand at 1,512-34 ft., shot with 40 qt., swabbed 66 bbl. in 6 hours, rated at 200 bbl. a day. Mabee Drilling Co. No. 1 Kimbrell, C N½ SW NE Section 19-7n-3e, Cypress at 1,505-40 ft., shot with 40 qt., pumped 115 bbl. Carter Oil Co. No. 4 Heckert, SW SE NW Section 20-7n-3e, Cypress at 1,522-53 ft., shot with 40 qt., swabbed 429 bbl. Shell Oil Co. No. 9 Fulton, SE SW NW Section 28-7n-3e, Cypress at 1,562-73 ft., shot with 10 qt., swabbed 130 bbl. of oil and 3 bbl. of water in 18 hours; later pumped 33 bbl. of oil and 17 bbl. of water in 17 hours. Stewart Oil Co. No. 3 McPheeters, SW NW SW Section 28-7n-3e, shot with 60 qt. at 1,549-77 ft., swabbed 168 bbl.

Carter Oil Co. No. 8 Feezel, NW SE NW Section 29-7n-3e, shot with 20 qt. at 1,536-44 ft., swabbed 300 bbl. through casing. Jarvis Brothers No. 9 Homan, NW SW SE Section 29-7n-3e, Cypress sand at 1,555-79 ft., shot with 30 qt., pumped 200 bbl. Shell Oil Co. No. 4 Milliser, NE NE NE Section 29-7n-3e, Cypress at 1,545-78 ft., shot with 21 qt., swabbed 170 bbl. in 18 hours, later pumped 161 bbl. of oil and 9 bbl. of water in 23 hours. Texas Co. No. 1 Buff, SE cor. NW NW Section 31-7n-3e, Cypress at 1,537-91 ft., shot with 10 qt., pumped 40 bbl. of oil and 67 bbl. of water in 13 hours. Carter No. 1 Ella Huffman, SE NE SE Section 2-8n-3e, Cypress at 1,493-1,526 ft., shot with 20 qt., swabbed 220 bbl. in 24 hours. Carter Oil Co. No. 3 Fortner, NW NE SE Section 10-8n-3e, stray sand 1,585-98 ft., shot with 30 qt., swabbed 43 bbl. Carter Oil No. 4 Holly, SE SW NE Section 11-8n-3e, stray sand at 1,573-88 ft., shot with 20 qt., swabbed 207 bbl. Carter No. 4 Matson, NW NE SE Section 11-8n-3e, stray at 1,545-51 ft., shot with 10 qt., swabbed 160 bbl. in 16 hours, rated at 270 bbl. a day. Carter No. 3 Drees, SW NW NW Section 22-8n-3e, shot in Cypress sand at 1,464-80 ft., flowed 41 bbl. in 8 hours, rated at 102 bbl. a day. Carter No. 1 Fritchman, NW SW SE Section 22-8n-3e, shot with 20 qt. at 1,506-12 ft., swabbed 120 bbl. in 8 hours, later swabbed 311 bbl. in 24 hours. Carter No. 1 Bauer, NW SE NW Section 23-8n-3e, Bethel sand 1,578-88 ft., shot with 20 qt., swabbed 90 bbl. of oil; shot again with 40 qt., the well flowed 350 bbl. of oil in 8 hours, rated a 900-bbl. well. Babcock Oil Co. No. 15 Rhoades, SE NW SE Section 27-8n-3e, stray at 1,557-74 ft., shot with 30 qt., pumped 117 bbl. McCleans and others No. 1 fee, C E½ W½ E½ Section 27-8n-3e, stray sand at 1,560-70 ft., shot with 20 qt., pumped 115 bbl. Same owners' No. 4 fee, C W½ W½ Section 27-8n-3e, Bethel sand at 1,580-88 ft., shot with 20 qt., pumped 187 bbl. Merrick & Apperson No. 6 Botterbusch, C SW cor. NW SW SW Section 29-8n-3e, Cypress sand at 1,494-1,507 ft., shot with 15 qt., pumped 20 bbl. a day. Carter Oil Co. No. 2 Tucker, SE NE SE Section 32-8n-3e, Bethel sand at 1,560-82 ft., shot with 20 qt., flowed 78 bbl. in 8 hours, rated at 216 bbl. a day. Oils, Inc., No. 7 Blurton, SE cor. NW NE NW Section 32-8n-3e, shot with 40 qt. at 1,551-80 ft., Bethel sand, flowed 450 bbl. in 24 hours. Same company's No. 8 Blurton, SE cor. NE NW Section 32-8n-3e, Bethel sand at 1,556-80 ft., shot with 30 qt., flowed 524 bbl. in 24 hours. Carter No. 3 Dial, SE NE NW Section 33-8n-3e, shot with 20 qt. at 1,516-21 ft. and with 20 qt. at 1,445-51 ft., pumped 120 bbl. Carter No. 4 Dial, SW NW NE Section 33-8n-3e, shot with 20 qt. at 1,563-69 ft., Bethel sand, swabbed 134 bbl. in 12 hours, rated at 336 bbl. a day. Carter No. 1 Jack Dial, SW SW NW Section 34-8n-3e, swabbed 202 bbl. in 14 hours from pays at 1,484-1,502 ft. and 1,591-97 ft.

In McDonough County, DeKalb Corp. No. 1 Hartsook, NW NW SE Section 14-4n-4w of fourth principal meridian, pay at 500-10 ft., a 7-bbl. pumper.

In Shelby County, Kingwood Oil Co. and Continental Oil Co. No. 1 Trueblood and others, SE SW SW Section 3-9n-5e, was dry and abandoned at 3,515 ft. Devonian lime was topped at 3,425 ft.

In Clark County, Leatherman and others No. 1 Tyhurst, NW SW SE Section 26-9s-14w, started at 25 bbls. a day at a total depth of 666 ft.

In Clay County

Pure Oil Co. No. 7 Leon Clark, C E½ SW NW Section 8-2n-8e, total depth 3,095 ft., pays and showings from 3,000 ft. to the bottom, at intervals; acidized with 5,000 gal., flowed 1,031 bbl. Pure No. 3 Moseley A, C E½ NW NW Section 10-2n-8e, pays and showings from 2,968 to 3,047 ft., acidized with 5,000 gal., pumped 58 bbl. of oil. Pure No. 2 Stanford, C E½ SW SW Section 32-3n-8e, Fredonia top at 3,013 ft., total depth 3,121 ft., acidized with 5,000 gal., flowed 877 bbl. of oil. Stewart Oil Co. No. 1 Fields, SW NE SW Section 17-5n-5e, was dry and abandoned at 2,565 ft. McClosky lime was topped at 2,481 ft.

In Richland County, Pure Oil Co. No. 1 Cazel B, saturated stray sand at 2,529-43 ft., and Cypress sand at 2,526-44 ft., pumped 221 bbl. in 24 hours.

Jefferson County

In Jefferson County, Papoose Oil Co. No. 1 Schweinfurth, NE SW SE Section 11-2s-2e, dry and abandoned at 2,749 ft.; McClosky lime top at 2,707 ft. Armstrong and others No. 1 Scott, SE NW SE Section 23-3s-2e, 8 bbl. of oil and 60 bbl. of water from Roseclaire pay, total depth 2,790 ft.

In Wabash County, R. I. Hays No. 1 A. R. Schultz, SE NW SW Section 7-3s-13w, total depth 2,881 ft., set 5½-in. casing at 2,865 ft., acidized with 1,500 gal, swabbed 80 bbl. in 4 hours, will put on pump.

In the Cordes pool in Washington County, Magnolia Petroleum Co. No. 2 Kurwicke, SW SE SE Section 15-3s-3w, shot with 10 qt. at 1,265-70 ft., Benoist sand, pumped 100 bbl. Magnolia No. 8 O. W. Francis, SE SW SE Section 15-3s-3w, Benoist at 1,273-83 ft., shot with 10 qt., pumped 50 bbl. Shell Oil Co. No. 5 Holston, NW cor. NE Section 22-3s-3w, Benoist at 1,261-90 ft., shot with 21 qt., pumped 40 bbl. Shell No. 4 Holston, NE NW NE Section 22-3s-3w, Benoist at 1,269-98 ft., shot with 21 qt., pumped 140 bbl. Magnolia Petroleum Co. No. 1 Novak, SW NE SE Section 15-3s-3w, Benoist at 1,236-60 ft., shot with 10 qt., pumped 144 bbl. Beavers and others No. 1 Lancey, NE NE NW Section 16-3s-3w, dry and abandoned in Aux Vases sand at 1,365-86 ft.

In White County, Superior Oil Co. No. 1, SW SW NE Section 26-4s-14w of second principal meridian, dry and abandoned at 3,063 ft.; sulfur water in McClosky lime at 3,052-63 ft.

In Moultrie County, Seaboard Oil Co. No. 1 Horn, SW SE NE Section 29-13n-5e, was abandoned as dry at 3,262 ft. Devonian lime was topped at 3,039 ft. and had a small showing of dead oil in the top.

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420 ROTARY LINING

North Louisiana, Arkansas

By
GEORGE WEBER

Gas-Distillate Discoveries in Texas and North Louisiana

SHREVEPORT, La., June 5.—Two gas-distillate discoveries led developments in the tristate district during the past week. In Panola County, eastern Texas border, a good gas-distillate producer was completed in the lower Glen Rose formation, bringing in another high-pressure field in that area. A deeper test in the Bisteneau field of Bienville Parish, North Louisiana, also was showing for a gas-distillate well from the lower Marine formation late this week, although the test was blowing salt water.

Wildcatting received a set-back when two deep wells in South Arkansas were abandoned after failing to find production in the Smackover lime, and a third well, attracting attention in the west edge of Bossier Parish northeast of the Shreveport field, failed to get saturation in the Petti lime. Completions were outstanding in the Magnolia field of Columbia County, Arkansas, and in Cotton Valley, Webster Parish, Louisiana. Operations are beginning on the Stanolind Oil & Gas Co. No. 131 Dillons Heirs, the important Pine Island deep test in Caddo Parish.

Panola Gasser

In Panola County, Texas, about 7 miles east of Carthage, the Turner & Smith No. 1 J. W. Bird, a wildcat in the Gillispy Survey, topped the gas sand at 4,982 ft. and a string of 7-in. casing was set at 4,985 ft. The well came in making 40,000,000 cu. ft. of gas, with casing and tubing pressures equalized at 2,300 lb. This test is located a few miles south and east of a gas field discovered several months ago by the Glassell interests of Shreveport.

In southeastern Panola County, another wildcat was completed as a failure. The Paul Pewitt No. 1 E. J. Rushing, 2 miles north of the town of Joaquin, in the Mannon Smith Survey, tested salt water on perforations at 5,087-91 ft. and 5,010-14 ft. A string of 5½-in. casing was set at 5,110 ft. Total depth is 5,817 ft. This well is north of the Joaquin gas-distillate field, of Shelby County. In that field, Earl McDaniel No. 1 McDaniel is bottomed at 6,220 ft. and is testing in the gas-distillate zone of the lower Glen Rose formation.

To the north, in Cass County, a new wildcat is getting under way. Red Iron Drilling Co. No. 1 N. S. Spearman, in the Samuel Burnham Survey, a 3,800-ft. Woodbine test, about 3½ miles southeast of Atlanta, is spudding.

Bisteneau Test

The deep well in the Bisteneau gas area of Bienville Parish, Arkansas Louisiana Gas Co. No. 2 Gayoso found gas and salt water. Casing was perforated at 8,285-8,314 ft. and the well showed an estimated 2,000,000 cu. ft. of gas with a spray of salt water. Operators acidized with 6,000 gal. and the well then tested 4,000,000 cu. ft. Further perforations were made at 8,306-12 ft., and the well, at latest reports, was flowing about 4,000,000 cu. ft. of gas.

Acidation last week greatly increased the productivity of a Bisteneau gas well in the 5,100-ft. zone. Union Producing Co. No. 1 Bienville School Board, after testing 4,000,000 cu. ft. of gas, was shut in, acidized, and completed for an initial flow of 9,198,000 cu. ft. through a ½-in. choke with tubing pressure 1,550 lb. and casing pressure 1,975 lb. The estimated potential open flow is 70,000,000 cu. ft. of gas. The Bear Creek area of eastern Bienville Parish is getting a new test, with Hunt Oil Co. drilling below surface casing in No. 1 Loe, 1 mile east of the McGee gas well. Sibley-Dubberly deep test, Union Producing Co. No. 1 Walker Unit, in Webster Parish, was drilling hard sand and shale below 10,042 ft. at latest report.

Cotton Valley

The Cotton Valley field gained two new producers during the week. Oliphant Oil Co. brought in No. 2-A Stewart for a D sand producer at 8,478-8,502 ft., making 582 bbl. in 15½ hours through a ¼-in. choke. Woodley Petroleum Co. deepened No. 1-B Cox, an old shallow well, to the Holloway sand at 5,618-81 ft., where a 65-bbl. well was brought in, also making an estimated 2,000,000 cu. ft. of gas.

Hunt Oil Co. No. 1 Miller tested oil in the D sand last week, and gas in the Bodcaw sand, coring ahead through the Davis sand to find a gas sand at 8,866-82 ft. The hole was carried below 8,920 ft.

In Bossier Parish, Harry Hanbury No. 1 Leonard, a wildcat 6½ miles northeast of the Shreveport field, topped Pettit lime at 5,465 ft., finding it hard and tight. The hole is being drilled ahead, penetrating lime and shale below 5,810 ft. at latest report.

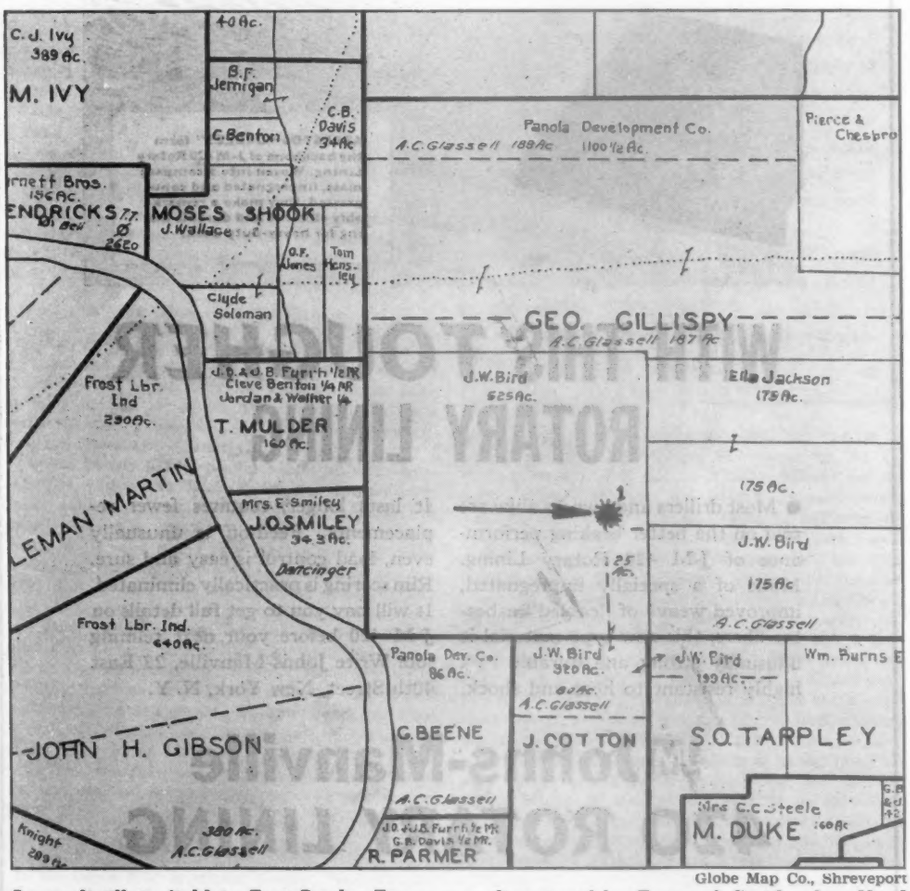
Arkansas Wildcats

Two wildcats were abandoned in Arkansas bringing disappointment in two prospective Smackover lime fields. Phillips Petroleum Co. No. 1 Sakew Unit, on a geophysical high 4 miles northwest of the town of Magnolia, Columbia County, was carried to a total depth of 8,510 ft., finding no saturation in the lime. It was abandoned in hard, dense lime.

In Union County, east of Junction City, Oliphant Oil Co. No. 1 Union Sawmill Co. was abandoned at a total depth of 7,950 ft., having found the Smackover lime hard and dense.

Meanwhile, Standard Oil Co. of Louisiana and Joe Modisett No. 1-B Frost Lumber Industries, in the Lockhart area of northern Union Parish, south of the abandoned Oliphant test, has found streaks of dolomite in red shale at 8,585 ft., and the lime is expected to be cored shortly.

In the newly opened oil field in Lafayette County, named the Lewisville field by the Arkansas Oil and Gas Commission, several locations are being staked and drilling is expected to gain in the next several days.



Globe Map Co., Shreveport

A gas-distillate field in East Border Texas was discovered by Turner & Smith when No. 1 J. W. Bird in Panola County came in for an initial production of 40,000,000 cu. ft. of gas from the lower Glen Rose formation

NORTH LOUISIANA COMPLETIONS

Caddo—Caddo Parish

Driscoll Drilling Co. No. 1 Muslow, NE cor. Section 9-20-15, total depth 1,310 ft., abandoned, will not drill. Ben Levy No. 1 Crystal fee, SW cor. Section 25-21-16, pumped 15 bbl. per day, total depth 2,255 ft. Midfield Oil Co. No. 1-B Muslow, 330 ft. N, 400 ft. W of C Section 6-20-15, 5,000,000 cu. ft. of gas and a light spray of oil, perforated casing at 2,150-2,200 ft., total depth 2,256 ft. Oblinger & Ritter No. 2 Boisseau, 829 ft. N, 1,245 ft. W of SE cor. Section 34-21-16, total depth 977 ft., pumped salt water, plugged back to 971 ft., tested salt water and was abandoned. Joe Straughn No. 1 Hart, 430 ft. N, 300 ft. E of SW cor. Section 29-21-16, total

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depth 2,398 ft., pumping 40 bbl. per day. Texas Co No. 22 Raines, 640 ft. S, 660 ft. W of NE cor. NW SE Section 15-21-15, 400 bbl. per day, open flow, 20 per cent basic sediment and water, casing pressure 200 lb., tubing pressure 50 lb., used 4,000 gal. acid, total depth 1,741 ft.

Rodessa—Caddo Parish

East Texas Refining Co. No. 1 U. S. Government, 475 ft. S, 662 ft. E of NW cor. NW SE Section 5-23-15, total depth 6,115 ft., 100 bbl. per day on gas lift. East Texas Refining Co. No. 2 Williams, 484 ft. N, 660 ft. W of SE cor. NE Section 5-23-15, 100 bbl. per day on gas lift, total depth 6,130 ft.

Shreveport—Caddo Parish

R. E. Allison No. 9 Ellerbe, 663 ft. N, 253 ft. E of SW cor. Section 26-18-14, 25 bbl. per hour, ¼-in. choke, casing pressure 1,050 lb., tubing pressure 475 lb., perforated 5½-in. casing at 5,549-58 ft., total depth 5,560 ft. Harry Fotiades No. 1 E. Wales Brown, 880 ft. N, 115 ft. W of C Section 35-18-15, 120 bbl. per day, ¼-in. choke, tubing pressure 960 lb., casing pressure 1,325 lb., set 5½-in. casing at 5,579 ft., total depth 5,592 ft. Red Iron Drilling Co. No. 1 Model Gardens Unit, 1,880 ft. N, 1,953 ft. W of SE cor. Section 23-18-14, dry and abandoned 5,630 ft. in Pettit formation.

Vivian—Caddo Parish

Bachelor, Adams & Birdwell No. 2 Van Horn, 1,650 ft. N, 994 ft. E of SW cor. Section 22-22-16, dry and abandoned at 2,690 ft., salt water. Mose Browning and others No. 2 Browning, 990 ft. N, 330 ft. W of SE cor. Section 21-22-16, dry and abandoned at 2,791 ft.

Wildcat—Sabine Parish

Earl F. Fox No. 1 Cook Land Co., C SW SE NW Section 1-9-12, total depth 3,655 ft., abandoned, will not deepen.

Zwolle—Sabine Parish

Sklar & Major Oil Co. No. 1 Sabine, 440 ft. S, 990 ft. W of NE cor. SE NE Section 7-7-11, total depth 2,418 ft., salt water, abandoned. C. H. Smith No. 1 Sabine Lumber Co., NE cor. NW NW Section 9-7-13, total depth 2,474 ft., salt water, abandoned. Jeff Spier No. 1 Remedes, 323 ft. N, 595 ft. W of SE cor. NW NW Section 12-7-13, pumping 100 bbl. per day, 85 per cent salt water, total depth 2,615 ft. Sutton Zwolle Oil Co. No. 3 Bowman Hicks, C SW SW NW Section 18-7-13, abandoned 2,595 ft., salt water.

Cotton Valley—Webster Parish

Oliphant Oil Co. No. 2-A Stewart and others, 460 ft. N, 660 ft. E of SW cor. Section 33-21-10, 915 bbl. per day, ¼-in. choke, gas/oil ratio 1,154-1, set 7-in. casing 8,556 ft., D sand 8,475-8,502 ft., perforated pipe at 8,478-8,502 ft., tubing pressure 1,250 lb., casing pressure 1,600 lb., total depth 8,565 ft. Woodley Petroleum Co. No. 1-B R. R. Cox, 660 ft. N and E of SW cor. Section 23-21-10, deepened from 4,695 ft. to 5,843 ft., 65 bbl. per day, 1-in. choke, estimated 2,000,000 cu. ft. of gas, tubing pressure 340 lb., casing pressure 640 lb., perforated casing at 5,618-81 ft.

Production by Pools

Estimated daily gross production all companies week ending June 2:

NORTH LOUISIANA

	Barrels
Bellevue	700
Caddo light	4,580
Caddo heavy	2,400
Converse	480
Cotton Valley heavy	80
Cotton Valley light	*13,040
Cross Lake	8,125
De Soto and Red River	1,136
Elm Grove	270
Haynesville	2,660
Holly	85
Homer	2,690
Lisbon	3,380
Pleasant Hill	100
Rodessa	26,440
Sarepta-Carterville	†540
Sligo	1,070
Sugar Creek	285
Urania	2,760
Zwolle	2,770
Total	73,590

SOUTH ARKANSAS

Atlanta	465
Buckner	1,865
Champagnolle	1,470
El Dorado	1,695
Lewisville	‡125
Lisbon	255
Magnolia	7,410
Miller County	335
Nevada	630
Rodessa	4,285
Schuler	18,050
Smackover light	1,930
Smackover heavy	14,730
Stephens	555
Troy	945
Urbana	1,085
Village	535
Total	56,365

Texas side of Rodessa field 29,585 bbls. daily.

*4,235 bbl. is distillate.
†210 bbl. is distillate.
‡Formerly reported Stamps.

ARKANSAS

Wildcat—Columbia County

Phillips Petroleum Co. No. 1 Askew Unit, C NE NW Section 4-17-21, total depth 8,510 ft., cored hard dense limestone at 8,490-93 ft., dry and abandoned.

Magnolia—Columbia County

Lion Oil Refining Co. No. 1 Crisp-Glasgow Unit, C NE SE Section 23-17-20, set 7-in. casing at 7,659 ft., perforated casing at 7,595-7,625 ft., cleaning 450 bbl. per day of oil and 370 bbl. per day of wash water, 20/64-in. choke, tubing pressure 1,200 lb., casing pressure 1,050 lb., total depth 7,659 ft. Lion Oil Refining Co. No. 2 Crisp-Glasgow Unit, C NW SE Section 23-17-20, 350 bbl. per day, 13/64-in. choke, perforated pipe at 7,580-7,610 ft., tubing pressure 1,350 lb., casing pressure 1,450 lb., total depth 7,649 ft. Shell Petroleum Corp. No. 1 Glasgow, C NW NW Section 23-17-20, 812 bbl. per day, ¼-in. choke, tubing pressure 1,475 lb., casing pressure 1,350 lb., total depth 7,661 ft., 5½-in. casing at 7,660 ft., perforated at 7,550-70 ft., 7,600-10 ft., 7,615-30 ft. and 7,646-51 ft.

Buckner—Lafayette County

Standard Oil Co. of Louisiana No. 2 J. Waters and others, 560 ft. N, 160 ft. W of SE cor. NE SW Section 7-16-22, 1,690 bbl. per day on open tubing, acidized with 3,000 gal., total depth 7,254 ft., top of lime 7,123 ft.

Wildcat—Union County

Oliphant Oil Corp. No. 1 Union Sawmill Co., 658 ft. S, 668 ft. E of NW cor. SW Section 22-19-14, hard dense gray lime at 7,950 ft., dry and abandoned.

(Continued on Page 91)

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California Field Report

By L. P. STOCKMAN

Ventura Avenue's Deep Zone and Rosecrans Are Extended

LOS ANGELES, Calif., June 5.—Developments in California during the past week were marked by the starting of a federal grand jury investigation, an extension of deep zone production in the Ventura Avenue field, a probable extension of the southern limits of production in the Rosecrans field of Los Angeles Basin and a blowout of a well in the Montebello extension in addition to the institution of legal proceedings to force operators to comply with the California gas conservation act of 1929 which prohibits the blowing of natural gas to the air.

A blowout in the western extension of the Montebello field of Los Angeles Basin occurred on June 1 when the gaskets blew out of the head on V-8 Oil Co.'s well No. 1 which had previously been completed flowing 892 bbl. of clean 44.9-gravity oil and 6,000,000 cu. ft. of gas per day from the third finger of the seventh zone and lower La Merced zone, with the upper La Merced zone cased off in order to reduce production of gas. At the start the blow was primarily gas estimated at 8,000,000 cu. ft. daily, but within a short time oil came in and at last report the well was still blowing oil and gas without restraint. Oil from the well began flowing down the drainage channel and would have reached the river had not dykes been constructed.

Rosecrans

Howard Oil Associates in No. 1 H. O., south of production in the Rosecrans field of Los Angeles Basin, obtained a satisfactory water shut-off on the 6⅝-in. water string at 7,585 ft. and swabbing operations were scheduled to follow. This well is bottomed at 7,644 ft. and has 45 ft. of what appears to be a well saturated oil sand in the O'Dea zone. A successful completion will greatly stimulate additional drilling as the sand was logged higher than the same zone was found nearer the apex of the structure and indicates that the southern limits of production may not have yet been found. The surface indications point to the possibility that the southern end of the field, as far as the O'Dea zone is concerned, may extend as far as Redondo Road, about 1 mile south. The coring of oil sand in this well resulted in the starting of two offsets and the staking of location for another. North of Howard Oil Associates lease, Southern California Petroleum Co. has a derrick up for No. 1 Siabaugh and Thomas Kelly & Sons have a rig up west of the Howard well. George Averill has location staked but has not yet started rig excavation.

Ventura Avenue

British American Oil Co. extended the productive limits of the deep 57 zone in the Ventura Avenue field this week by completing No. 7 Hartman, flowing 1,750 bbl. of 31.2-gravity oil and 1,350,000 cu. ft. of gas per day from 8,400 ft. after the hole had been finished with an 8⅝-in. water string landed at 7,851 ft. This well is several hundred feet northwest of No. 3 Hisey of Alliance Petroleum Corp. which was completed late in April flowing 2,160 bbl. of 27.3-gravity oil and 1,250,000 cu. ft. of gas per day from 8,520 ft. Both wells show a cut of around 5 per cent. British American drilled this well on the Hartman lease, which is held by Bolsa Chica Oil Co., on a participating basis after the cost of the well has been returned.

Wilmington

Five wells were completed in the Long Beach Harbor section of the Wilmington field. Several others are in the process of being completed. Some of the latter group had already started to flow, but were just getting under way and no gage was available. Long Beach Oil Development Co. No. 2-X was completed flowing 850 bbl. of 26.6-gravity oil from the Lower Terminal zone and 650 bbl. of 24.3-gravity oil per day from the Upper Terminal zone and No. 6-X completed flowing 850 bbl. from the Lower Terminal zone, 650 bbl. from the Upper Terminal zone and 550 bbl. from the Ranger zone. In No. 2-X the Ranger zone is shut in whereas production from the Lower Terminal zone is coming through a 12/64-in. bean and production from the Upper Terminal zone is flowing through a 9/64-in. bean. In No. 6-X the Lower Terminal zone is being produced through a 16/64-in., the Upper Terminal zone through a 14/64-in. and the Ranger zone through a 32/64-in. bean. These two multiple zone wells each showed a potential high enough to fall within the present top production of 250 bbl. per day under the new uniform method of allocation.

TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS

	May 27		May 20			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	61,729	8,818	247,520	203,139
Fuel oil	.....	.....	68,095	9,728	945,772	.....
Diesel and gas oil	.....	.....	.....	.....	233,051	178,662
Gasoline	209,552	29,936	125,156	17,879	1,348,513	1,227,687
Kerosene	.....	.....	.....	.....	122,200	199,453
Asphalt	.....	.....	65,795	9,399	280,447	284,401
Lubricants	.....	.....	.....	.....	11,184	6,005
Foreign exports—						
Crude oil	496,185	70,884	417,976	59,711	8,310,763	13,019,614
Fuel oil	373,891	53,413	440,067	62,867	4,583,504	4,431,227
Diesel and gas oil	227,325	32,475	231,496	33,071	3,494,045	3,047,645
Gasoline	54,565	7,795	42,652	6,093	4,440,126	4,591,663
Kerosene	.....	.....	.....	.....	926,838	892,807
Asphalt	.....	.....	6,919	988	6,919	.....
Lubricants	15,979	2,283	7,140	1,020	244,659	177,971
Other finished oil	.....	.....	.....	.....	352	.....
Coastwise-domestic—						
Crude oil	411,592	58,799	269,072	38,439	5,193,814	4,708,020
Fuel oil	139,504	27,643	184,065	26,295	6,087,831	7,248,718
Diesel and gas oil	19,025	2,718	73,098	10,443	1,432,117	1,364,522
Gasoline	440,852	62,979	433,590	61,941	8,598,540	8,770,246
Kerosene	20,213	2,888	3,356	479	439,918	375,649

General Petroleum Corp. No. 9 S. P., bottomed in the Terminal zone at 4,040 ft., was brought in flowing 2,150 bbl. of clean 26.8-gravity oil per day and No. 35 Ford, finished at 4,125 ft., was completed flowing 2,280 bbl. per day. Union Pacific Railroad Co. completed No. 17-E flowing 186 bbl. of 22.3-gravity oil per day from 3,070 ft. after the hole had been carried down to 3,329 ft. and then plugged back. Union Pacific Railroad Co., General Petroleum Corp. and several other operators in the Wilmington field have gravel-packed several recent completions and apparently have found that this method of completion is advantageous.

Southeast Coalinga

Superior Oil Co., in the Southeast Coalinga field of Fresno County, completed No. 6 fee in Section 7-20-16 and No. 2 Cagle in Section 6-20-16. The former, completed at 8,131 ft. with an 8⅝-in. water string landed at 7,973 ft., was brought in flowing 4,600 bbl. of 32.2-gravity oil and 2,600,000 cu. ft. of gas per day through a 38/64-in. bean behind a tubing pressure of 1,260 lb. and a casing pressure of 1,340 lb. This well, the deepest producer in the field, logged top of the Gatchell zone at 7,973 ft. and is producing from 158 ft of formation. No. 2 Cagle was completed flowing 3,650 bbl. of 32.4-gravity oil and 2,500,000 cu. ft. of gas per day through a 32/64-in. bean. This well was finished with an 8⅝-in. water string landed at 6,926 ft. with bottom of the hole at 7,427 ft. Top of the Gatchell zone was logged at 6,926 ft. and base of the productive zone at 7,407 ft. giving No. 2 Cagle 487 ft. of formation from which to draw. This well extends production one location north.

San Joaquin Basin

In the Arvin field of Kern County, Texas Co. completed No. 1 Jewett in Section 16-31-29 flowing 1,630 bbl. of 29.1-gravity oil and 800,000 ft. of natural gas per day from a depth of 6,211 ft. The well was shut in immediately after completion but will be put back on production within two weeks. On the Turk anticline in Fresno County, Superior Oil Co. made location for No. 1 S. P. L. in Section 15-18-16 about 4½ miles southeast of Shell Oil Co. No. 48-30 Port Costa. Both locations are geophysical highs on the Turk anticline. No. 48-30 Port Costa of Shell in Section 30-17-16 is nearing the end of work and may be abandoned in the near future unless a change for the better takes place. In this wildcat, top of the main Temblor was cored at 6,940 ft., top of the Vaqueros at 7,500 ft., top of the Kreyenhagen at 8,023 ft. and top of the Eocene at 8,955 ft. The well is at present going ahead in the Eocene at 8,970 ft. and the company will no doubt go into the Eocene at least 100 ft. before suspending work.

In the Dominion section of the Mount Poso field of Kern County, Crestmont Oil Co. has completed No. 1 Buchner in Section 20-26-28 pumping 140 bbl. of 15.3-gravity oil cutting 2 per cent from 1,547 ft. and in doing so opened up a new undrained productive area separated from the rest of the field by a cross fault. Very little acreage is available in this area but additional drilling may be expected. The extent of the new structure has not been determined but it will undoubtedly be rather small and held by a few operators. No. 1 Buchner picked up the top of the productive Vedder at 1,530 ft. and is producing from this zone at its present depth.

Kettleman Hills

In the Kettleman North Dome field, Standard Oil Co. completed No. 74-17-Q in Section 17-22-18 flowing 1,350 bbl. of very clean 34.9-gravity oil and 972,000 cu. ft. of natural gas per day from the Temblor with bottom of the hole at 8,385 ft. This new well was finished with a 9⅝-in. water string landed at 6,935 ft. and 1,516 ft. of 7-in. liner hung at 8,383 ft. and gun perforated at preselected points. No. 74-17-Q which was brought in flowing through a 18/64-in. bean, showed a tubing pressure of 560 lb. and a casing pressure of 1,320 lb. It established a potential production on a short test of 3,338 bbl. per day through a 77/64-in. bean.

In the Midway-Sunset field of Kern County, Manley & McGinn, pioneer operators in the area, completed No. 15, in Section 15-31-22, pumping 33 bbl. of 14.3-gravity oil cutting 16 per cent from a depth of 1,232 ft. This well was finished with a 10¾-in. water string landed at 870 ft.

Los Angeles Basin

In the southeastern end of the Long Beach field, George Parry and associates found such a good looking oil sand in their projected deep test at 6,820 ft. that they have decided to make a production test from that point. If this well shows commercial production it is likely that several additional holes will be drilled within a very short time.

Texas and Louisiana Gulf

By
NEIL WILLIAMS

Wildcats in Louisiana Make Promising Oil-Gas Showings

HOUSTON, Tex., June 5.—Interest in the Gulf Coast district at the close of the week was centered on the coastal Louisiana sector where production tests were being made on several promising wildcats.

On the LaPrice prospect, St. James Parish, Shell Oil Co., Inc., No. 1 Shexnayder, Section 38-12s-15e, was showing for a distillate producer while cleaning out through perforated casing at 10,910-15 ft. The well is flowing 1 bbl. of 45.6-gravity distillate per hour through a 10/64-in. choke under a tubing pressure of 4,600 lb. This test was drilled to 11,314 ft., and had logged several sands below 9,000 ft., the most promising one at approximately 10,300 ft., at which depth a drill-stem test recovered several hundred feet of oil. For this reason the present perforations are expected to be cemented off and the other sands tested. The structure is approximately 13 miles west of the Hester field.

On the Paradis prospect, St. Charles Parish, Texas Co. No. 1 L. L. & E. Paradis, Section 39-14s-20e, perforated casing at 9,608-20 ft., and tested 2,800 lb. of pressure and flowed an estimated 8 to 10 bbl. of distillate per hour. This is the fourth production test to be made, and the above perforations have been squeezed off and the hole plugged back to 9,580 ft. for another test. Other sands in which the well showed gas and distillate lie as follows: 10,060-70 ft., 9,840-50 ft., and 9,820-30 ft.

In Iberville Parish and located in the St. Gabriel area, Shell Oil Co., Inc., is preparing to retest No. 1 Natalbany Lumber Co., a promising wildcat in Section 18-9s-2e. This well was drilled to a total depth of 10,542 ft., and a series of production tests have been made at 9,040-50 ft., 9,050-53 ft., 9,070-75 ft. and 9,060-65 ft. Results of these tests are not available, although they are reported to have shown various amounts of oil, gas and salt water.

Bel Oil Corp. is preparing to make a fifth production test of No. 1 J. A. Bel, in Section 22-6s-3w, a wildcat located on the North Elton prospect in Allen Parish, and it is expected to be completed as a wet gasser. The company is now waiting for cement to set after squeezing off perforations at 6,025-36 ft. where a drill-stem test showed 600 lb. of pressure and 4 stands of drilling mud with a slight trace of distillate.

On the China prospect, Jefferson Davis Parish, Union Sulphur Co. No. 1 H. B. Tietje, Section 36-7s-4w, tested salt water through perforated casing at 8,057-65 ft., and the hole has been plugged back, preparatory to retesting just below the 7,900-ft. horizon. The well was drilled to 9,220 ft., and 7-in. casing cemented at 8,227 ft. on the strength of an electrical survey.

In the newly opened Grand Lake field, Cameron Parish, Superior Oil Co. is preparing to spud No. 2 State. The well is 3 ft. due west of the discovery well and is being drilled from the same derrick floor.

On the south flank of the Roanoke field, Jefferson Davis Parish, Humble Oil & Refining Co. No. 6 DeVilbiss was abandoned at a total depth of 4,925 ft. Several attempts to complete the well in a sand at 4,000-4,200 ft. failed.

Along the Sparta-Wilcox trend, Amerada Petroleum Corp. No. 1 Marchieve, Section 6-2s-3e, has apparently extended the Eola field to the north as broken sand in the Wilcox section was topped at 8,489 ft. and the crew is coring ahead in sand showing oil below 8,524 ft. The well is west of Pomo Oil Co. No. 1 Sentel. Top of the Wilcox (Tertiary) formation was found about 50 ft. lower than in the discovery well. Sid Richardson No. 1 State Bayou Boenf, Section 7, cored oil sand at 8,430-8,533 ft. and 5½in. casing was cemented at 8,546 ft.

Location for two tests were made in the Cheneyville field, Rapides Parish. Texas Canadian Oil Co. No. 1 Mathis, Section 4-1s-2e, is drilling below 850 ft., while Gulf Oil Corp. is rigging up No. 1 M. B. Pope in Section 4-1s-2e. Both wells are expected to be drilled to the Cockfield sand.

Wildcatting along the Sparta-Wilcox trend is showing an increase as locations for two more tests were made and several others are scheduled to be announced in the next few weeks. In Vernon Parish, Nat Hunter staked location for No. 1 W. T. Burton in Section 13-2n-5w. The well is about 15 miles east of Leesville, and south of W. T. Burton No. 1 fee, in Section 32-1n-6w, which is drilling in shale below 4,000 ft. In St. Landry Parish, Deep Rock Oil Co. is preparing to spud No. 1 B. Babineaux in Section 39-8s-4e.

In the Gibson field, Terrebonne Parish, Shell Oil Co., Inc., opened distillate production from a new sand with the completion of No. 3 Kuntz. This well was drilled to 10,200 ft., and was completed through perforated casing at 8,639-42 ft. On an 18-hour gage the well flowed 56 bbl. of distillate and 10 bbl. of water through various chokes. Tubing pressure was 3,200 lb. and casing pressure 3,240 lb.

Texas Coast

Development along the Texas coast was rather disappointing as an important Wilcox test was abandoned in San Jacinto County and the Aldine field, Harris County, was defined on the northeast by a dry hole.

Jack Frazier and others No. 1 Annie J. Smith, north of Shepherd in the J. D. Martinez Survey No. 10, San Jacinto County, was abandoned in the Wilcox section at 7,512 ft. The Wilcox is reported to have been topped at approximately 7,200 ft., and sand and shale, carrying salt water, were cored throughout the section. The well is on a block of several thousand acres in which Sinclair Prairie Oil Co. recently purchased a three-fourths interest. A second well will be started on the block within the next few weeks.

Texas Gulf Producing Co. No. 1 Ory D. Heath, about 1 mile northeast of the discovery well of the Aldine field, Harris County, was abandoned at 7,012 ft. This is the second dry hole drilled in the field and the abandonment shifts interest to the southeast where Earl Hankamer is drilling below 2,300 ft. on No. 1 W. B. Rowland, located in Lots 42 and 43, E. Farias Survey.

Approximately 3 miles southwest of the North Cheek field, Jefferson County, Hebert-Smith and others No. 1 L. D Fontenot is drilling in shale below 7,400 ft. A slight showing of oil and gas was logged at 6,673-79 ft., and salt water sands were cored at 6,679-84 ft. and 6,684-94 ft. An electrical survey will be made at 7,500 ft.

Magnolia Petroleum Co. No. 11-A West, 1,300 ft. west of production, perforated casing at 5,145-54 ft. The well flowed mud and oil for 10 hours and then went dead. Screen was pulled, and on a drill-stem test the well flowed 30 bbl. of oil in 3 hours, under a working pressure of 510 lb. Although it is structurally lower than the other producers, production is expected to extend outside the company's block which will result in several wells being started on the west side of the field.

Smith & McDannald extended production in the Magnet-Withers field, Wharton County, about 1 mile northeast with the completion of No. 1 Mary Marti. The casing was perforated at 5,537-40 ft, and on a 12-hour potential test, the well flowed 60 bbl. of oil through a ⅛-in. choke under a tubing pressure of 625 lb.

In the Ace field, Polk County, Patrick & Tyrell Drilling Co. No. 1 Kirby Lumber Co. cored sand and shale with an oil odor at 7,815-28 ft. and a drill-stem test was scheduled to be made. The well is in the P. A. Sublett Survey, about 933 ft. northwest of Shell Oil Co., Inc., No. 1 Doucette which opened production from the Wilcox sand several weeks ago.

On the north flank of the Thompson field, Fort Bend County, H. M. Naylor completed No. 2 Mueselman for an initial production of 941 bbl. per day, flowing through a ¼-in. choke under a tubing pressure of 1,800 lb. and a casing pressure of 1,700 lb. The sand section was topped at 7,703 ft., and the well was completed at a total depth of 7,782 ft. It is a west offset to No. 1 Mueselman which opened production from Vicksburg formation several weeks ago. At a hearing before the Railroad Commission last week H. M. Naylor asked that the field be developed on a 20-acre spacing basis, and that each well be allowed to produce 350 bbl. per day until a daily average of 10,000 bbl. is reached from the formation.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

(24-hour production)

Brazoria County

Old Ocean field: Harrison & Abercrombie No. 4 Chenault, 10,444 ft., 300 bbl., various chokes.

Chambers County

Anahuac field: Humble Oil & Refining Co. No. 27-X Johnson, 7,100 ft., 552 bbl., ¼-in. choke.

Fort Bend County

Big Creek field: Gulf Oil Corp. No. 77 W. T. Davis, 8,273 ft., abandoned. Boling field: Mackhank Oil Co. No. 13-C J. R. Farmer, 4,785 ft., gas well. Blue Ridge field: R L. Production Co. No. 2 Gulf fee, sand 3,830-39 ft., 402 bbl., ¼-in. choke. Thompson field: Humble Oil & Refining Co. No. 8 Davis, 5,390 ft., 72 bbl., ⅛-in. choke.

Galveston County

Dickinson field: Bennett Oil Corp. No. 2 R. C. Gray, perforated casing 8,967-76 ft., gas well. Bennett Oil Corp. No. 2 Harris, sand 8,800-29 ft., 295 bbl. in 16 hours, ⅛-in. choke. Coast Petroleum Corp. No. 14 Stewart, sand 8,880-8,915 ft., 628 bbl., ¼-in. choke. Hitchcock field: Maco Stewart No. 11 fee, sand 5,133-44 ft., 115 bbl., ⅛-in. choke.

Hardin County

Silsbee field: Humble Oil & Refining Co. No. 5 Kirby, 552 bbl., ¼-in. choke.

Jefferson County

Lovells Lake field: Humble Oil & Refining Co. No. 4 Broussard, 168 bbl., ⅛-in. choke.

Liberty County

Hardin field: Texas Co. No. 3 R. R. Smith, 7,643 ft., 135 bbl., 13/64-in. choke.

Polk County

Segno field: Humble Oil & Refining Co. No. 12-BX Kirby Lumber Co., 8,190 ft., 192 bbl., ¼-in. choke.

Harris County

Aldine fied: Texas Gulf Producing Co. No. 1 Heath, 7,012 ft., abandoned. Eureka field: J. W. Frazier No. 1 Lena Dunn, perforated casing 7,696-7,700 ft., 530 bbl., ¼-in. choke. Fairbanks field: Amerada-Stanolind Oil & Gas Co. No. 1-D Edward H. Spaulding, perforated casing 6,833-40 ft., 135 bbl., ⅛-in. choke. W. S. Noble No. 2 Hillegeist, sand 6,824-45 ft., 121 bbl., ⅛-in. choke. Sinclair Prairie Oil Co. No. 4 Goodykoontz, perforated casing 6,821-23 ft., 89 bbl., ⅛-in. choke. Friendswood field: Humble Oil & Refining Co. No. 32-B Humble-West, sand 6,062-71 ft., 471 bbl., ¼-in. choke. Humble Oil & Refining Co. No. 12 Keisling-Dixon, sand 5,968-6,047 ft., 600 bbl., ¼-in. choke. Humble Oil & Refining Co. No. 12-B Humble-West, sand 6,063-73 ft., 384 bbl.,

(Continued on Page 92)

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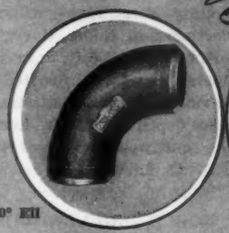

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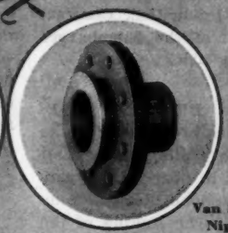

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Among the Drilling

B. A. DUFFY, contractor of Abilene, Tex., has been awarded the contract for a wildcat in the southwestern part of Concho County, West Texas. Test will be by Floyd C. Dodson of San Angelo and will be on the Robert Wilson lands, 10 miles southwest of Eden and ½ mile from the Concho and Menard County line. Dodson No. 1 Wilson has been staked 425 ft. from the north and 1,250 ft. from the west line of Section 1, Thomas Greene Survey. Contractor is rigging up a spudder and plans to drill to 3,500 ft. or to oil or gas production. Contract calls for a test of the Ellenburger of lower Ordovician.

BOSWORTH DRILLING CO., Odessa, Tex., has been awarded the contract for the drilling of the first Ordovician test in nearly five years in the Big Lake pool of Reagan County, West Texas. The staking of the location and awarding of the drilling contract came on the eve of the sixteenth anniversary of this first major West Texas oil pool. Test is Big Lake Oil Co. No. 17-C University of Texas lands and is in the northeast part of the pool, northwest part of Section 25, Block 9, University Survey. The late Carl G. Cromwell of San Angelo drilled in Texon Oil & Land Co. No. 1 Santa Rita, the discovery Permian lime producer in the area on May 28, 1923, and in December of 1928, developed the 8,525-ft. Ordovician production, the first for West Texas. Permian lime wells, through April 30 of this year, had produced 47,629,897 bbl. of oil and the Ordovician wells had yielded 14,722,697 bbl.

HARVEY DRILLING CO., Wichita Falls, Tex., will drill a 5,000-ft. wildcat test in Young County, North Texas, for Hull & Silk of Wichita Falls. Location has been staked 330 ft. from south and east lines of Block 180, T.E.L. Survey, on the Henry Tucker farm about 4 miles south and a little west of Olney. The location is surrounded by shallow horizon wells. It will be the first deep test in that area. Drilling operations were expected to begin June 6.

W. R. QUINN, contractor of Beeville, Tex., has been awarded contract by R. G. (Tex) Pattillo, West Texas oil producer of McCamey, for the drilling of his No. 1 D. Miller, wildcat test in Live Oak County, South Texas. Test will be operated jointly by Mr. Pattillo and Marshall R. Sanguinet, on whose father's-in-law land the test is located. Test will be drilled with rotary and will be carried to the Jackson sand. The location is on the trend in the Alice and Alfred area extending from Jim Wells County northeast into Live Oak County. It is 1¼ miles northeast of the nearest gas well in the Vicksburgh pool.

CHARLES D. HAGERTY, contractor of San Angelo, Tex., is scheduled to resume operations on the test which he shut down more than a month ago. It is Natural Resources Corp. No. 1 R. G. Armor, Concho County, West Texas, wildcat 5 miles northeast of Eden. Operations were suspended at 705 ft. in hard lime and operator was last reported preparing to run casing and continue to its contract depth of 3,250 ft. Location is in the southwestern part of Section 105, T.&N.O. Survey.

NOBLE DRILLING CO. of Tulsa, has been awarded the contract on an important deep test in the Pine Island field of Caddo Parish, North Louisiana, by the Stanolind Oil and Gas Co. The test, No. 131 Dillon heirs, is expected to be carried at least to 6,500 ft., where the lower Marine formation is anticipated. The field shows a structure on the deep formation similar to that in the Cotton Valley field, a major gas-distillate and oil reserve in North Louisiana.

ALLEN & MORRIS have cemented casing for a production test of Seaboard Oil Co. No. 1 Person, a wildcat about 6 miles east of Mathis, in San Patricio County, Texas. The hole was drilled to a total depth of 6,348 ft., and 5-in. casing was cemented at 5,675 ft. A recent drill-stem test at approximately 5,600 ft. showed 60 ft. of oil and 42 lb. of gas pressure. In the Clara Driscoll field, a production test is being made on Ralph Ogden No. 3 Miller. Other operations are reported in the Luby field, Nueces County, for Seaboard Oil Co. and at the La Rosa field for the Coronado Oil Co.

LOFFLAND BROTHERS completed a second producer in the deep pay on the north flank of the Thompson field, Fort Bend County, Texas, for H. M. Naylor. At the present time two rotaries are running in the field and two more are scheduled to be moved in within the near future. In the Old Ocean field, Brazoria County, contract was received from the Mid-Continent Petroleum Corp for No. 1 William Chenault.

SMITH & McDANNALD opened addition acreage for development in the Magnet-Withers field, Wharton

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Houston, Joinerville, Talco, Corpus Christi, Bay City, Alvin, Texas . . . Rodessa, Jennings, Houma, Louisiana

County, Texas, with the completion of No. 1 Mary Marti. The well is about 1 mile northeast of production and was completed through perforated casing at 5,537-40 ft. for an initial production of 60 bbl. in 12 hours, flowing through a ⅛-in. choke.

JACK FRAZIER abandoned his No. 1 Annie J. Smith, a wildcat in San Jacinto County, Texas, for a total depth of 7,512 ft. The rig will be moved to another location in the same area in the near future. In the Eureka field one rig is running for himself.

PATRICK & TYRELL DRILLING Co. was making a drill-stem test in its No. 1 Kirby Lumber Co., a Wilcox test in the Ace field, Polk County, Texas. Broken sand and shale with an oil odor was cored at 7,815-28 ft., the total depth.

HELMERICH & PAYNE, Inc., and others are drilling in shale and lime shells below a depth of 5,275 ft. at No. 1-A Harms, NW NE Section 6-10-16w, Washita County, Oklahoma. This organization is drilling No. 1 Henderson, SE SE NW Section 27-16-1, Meridian pool, Logan County, Oklahoma, below 5,405 ft. It was plugged back with cement for testing the Hunton formation.

NOBLE DRILLING CO., Tulsa, is drilling a deep test for Pure Oil Co. at No. 1 Noble, NE SE Section 35-3s-1, near Ardmore, Okla., went to a total depth of 8,500 ft. After plugging back to 6,530 ft., operators have bailed down to 6,200 ft. As soon as the well is bailed dry it is planned to perforate in the Tulip Creek section.

DUWE & FARRIS, Wichita, Kans., have been fighting a cave at No. 1 Hurt, NW NW NE Section 22-19-9w, Rice County, Kansas. Conglomerate was encountered at 3,175 ft. The well is down to a total depth of 3,191 ft.

SUMMIT DRILLING CO. and McIntyre No. 1 Steil, C N½ SW Section 8-10-11, west of Weleetka, Okla., had the Hunton at 3,525 ft., the Sylvan at 3,639 ft., Viola at 3,720 ft. and dolomite at 3,747 ft. It was cored at 3,751-66 ft. in Wilcox sand.

HARBAR DRILLING CO. completed No. 2 Waite, SE NW SW Section 21-31-4e, in the northwestern section of the Hittle (Arbuckle) pool, Cowley County, Kansas. This well is rated as an 11,438-bbl. producer on bottom-hole pressure test at 3,357 ft. in the Arbuckle dolomite. This offsets a well drilled by the same company which is rated as a 17,508-bbl. producer.

KERR-LYNN DRILLING CO. and others drilled No. 1 Heims, NW NW NW Section 36-22-4w, Garfield County, Oklahoma, on the southwest flank of the Barber pool to the contract depth of 5,042 ft. Operators have been surveying the well by the electric-survey method.

E. E. Lantz, tool pusher for Sawyer Drilling Co. on location in the East White Point field, San Patricio County, for Sinclair Prairie

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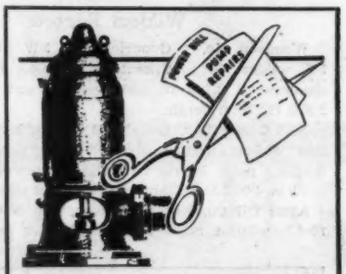

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Oklahoma Operations

By
DAL DALRYMPLE

Ramsey Edge Well Produces; Open Shallow Pool in Osage

The twenty-ninth producer in the Ramsey pool in Payne County, Oklahoma, was near completion at Mid-Continent Petroleum Corp. and others No. 1 Graham, NE SE SE Section 13-18-1e, on the southwest edge of the field. It is estimated good for daily potential of 5,024 bbl. of oil from Wilcox sand at 4,847-67 ft., total depth. It flowed 241 bbl. of oil the first hour after washing in, 199 bbl. the second hour, 188 bbl. the third hour and 194 bbl. the fourth hour. Gas was estimated at 4,000,000 to 4,600,000 cu. ft.

A Prue sand pool was opened in northeastern Osage County at Charles Petroleum Corp. and P. A. Holbert No. 1 Pierce, SW Section 10-28-11, between the Hickory Creek and Bowring pools. Prue sand was topped at 942 ft., total depth 990 ft. It was shot and the well flowed 100 bbl. of 38-gravity oil in the first hour, later flowing 200 bbl. in 24 hours after cleaning itself.

Magnolia Petroleum Co. No. 3 Cain, C W½ NE SW Section 12-17-1e, Coyle pool, Payne County, apparently uncovered a new pay zone for the area but passed it up to drill to Wilcox sand. Hunton lime was topped at 4,573 ft. and 15 ft. of saturated lime was recovered in a core. With drill-stem packer set at 4,575 to 4,628 ft., the well flowed a stream of oil for 4 minutes and potential production was estimated as high as 2,000 bbl. daily. Operators decided not to develop the Hunton zone at this time, however, so drilling toward the deeper zones was resumed.

Wildcat Reports

Woodson No. 1 Goodrich, NE SW SE Section 14-5-5, wildcat in southwestern Seminole County, found dolomite at 2,790 ft. and was dry and abandoned at 2,920 ft., total depth.

Kirk-Green-Way, Inc., No. 1 Kautz, NW SW SE Section 6-18-2e, wildcat about 1 mile northeast of the Ramsey pool, Payne County, found water in Wilcox sand at 4,917-34 ft., and was dry and shut down.

Alma Oil Co. No. 1 Johnson, SW NW SW Section 19-6-5, wildcat northeast of the Gray pool and south of Sacred Heart in Pottawatomie County, opened a new producing area. It topped first Wilcox sand at 3,990 ft.; had second Wilcox sand at 4,025-62 ft., total depth, found it dry and plugged back to 3,019 ft. Casing was perforated at 2,890-2,900 ft. in Earlsboro sand, the hole filled with oil in 6 hours, and it flowed 120 bbl. of 32-gravity oil in 12 hours.

Indian Territory Illuminating Oil Co. and others No. 1 Fillmore, SW SW SE Section 36-2s-19w, deep discovery in the Frederick area, Tillman County, was estimated good for 300 to 350 bbl. of oil daily from lime at 5,139 ft., total depth, and pumping equipment was being installed.

Alma Oil Co. and others No. 1 Benish, SE SE NW Section 3-11-6, northwest of the Keokuk pool in northeastern Pottawatomie County, was a wildcat location. Pits were being dug. Wilcox sand production will be sought.

Amerada Petroleum Corp. and Roy Starr Oil & Gas Co. were reported rigging up at No. 1 State, NE NE SW Section 13-29-2w, east of the North Braman pool in Kay County and near the Kansas line. It is to be a 4,000-ft. test. Location is on a 640-acre block.

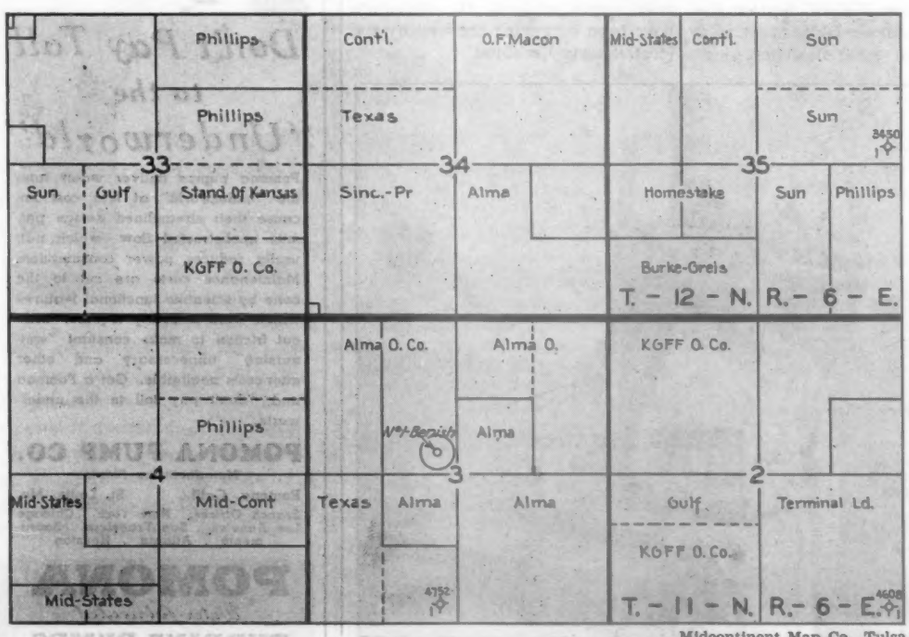
Gulf Oil Corp. No. 1 Thomas, C N½ SW SW Section 21-24-4w, southeast of Hunter in northeastern Garfield County, had dug cellar and pits.

Pottawatomie County

Mid-Continent Petroleum Corp. No. 4 Vieux, SE NW SE Section 31-7-5, St. Louis district, Pottawatomie County, was bottomed at 4,150 ft. and pumped 240 bbl. of oil in 24 hours.

Same company's No. 4 Upton, SE NE NE Section 1-6-4, south end of the field, swabbed 80 bbl. of oil with an estimated 125 bbl. of water in 8 hours after acidizing at 4,157 ft., total depth. It was to be put on the pump.

Tabor & Coleman No. 3 Johnson, SE NE SW Section 29-7-5, averaged 315 bbl. of oil daily on potential test, pumping. It was bottomed at 4,093 ft.



Midcontinent Map Co., Tulsa

Work was started at Alma Oil Co. No. 1 Benish, Section 3-11-6, wildcat northwest of the Keokuk pool, northeastern Pottawatomie County

J. F. Smith No. 6 Tartar, NW NW SW Section 32-7-5, also was to be put on the pump. It was bottomed at 4,109 ft., acidized and swabbed 250 bbl. of oil in 24 hours.

Kerlyn Oil Co. No. 1 School Land, NW NW NE Section 36-7-3e, Avoca-St. Louis area, swabbed 20 bbl. of oil an hour with a show of water from sand at 4,234-35 ft., total depth. Seven-inch casing was set at 4,204 ft.

Russell B. Patterson No. 1 Edwards, NE SE SE Section 28-6-5, Gray area, was estimated good for 200 bbl. of oil daily and shut in for connections. Sand was topped at 2,732 ft., total depth 3,000 ft. It was shot at 2,740-65 ft., and swabbed 140 bbl. of oil.

Two producers in the Shawnee pool were at completion stage. Yorkan Production Co. No. 1 Sauter, SE SE SE Section 31-11-4, two locations north of the recently completed extension well on the west side of the pool, was flowing 150 bbl. of oil daily by heads at total depth of 4,412 ft.

Same company's No. 1 O'Connor, NE NE NE Section 6-10-4, direct north offset to the extension producer, was estimated good for 300 to 350 bbl. of oil daily after flowing into the pits several times when drilled to total depth of 4,433 ft.

Recent completions in Pottawatomie County included the following:

Ray Stephens, Inc., No. 1 Zoeller, NE SE SW Section 5-6-5, had dolomite at 4,120 ft., total depth 4,239 ft., 60 bbl. of oil.

Tabor & Coleman No. 1 Engle, NW SW NE Section 34-7-4; total depth 4,355 ft.; 33 bbls. of oil.

Wood Oil Co. No. 3 Swan, NE SW SE Section 36-7-4; dolomite 4,195 ft.; total depth 4,231 ft.; acidized; 149 bbl. of oil.

Big Chief Drilling Co. No. 1 Green, NW SW SE Section 29-7-5; dolomite 4,082 ft.; total depth 4,137 ft.; acidized; 250 bbl. of oil.

Watchorn Oil & Gas Co. No. 1-A Vanselous, C E½ NE SE Section 32-7-5; Earlsboro sand 3,088 ft.; total depth 3,095 ft.; 140 bbl. of oil.

Tillico No. 2-A Smith, NE SW SE Section 26-7-4, an old well, was deepened from 4,160 ft. to 4,209 ft., acidized, pumped 130 bbls. of oil daily.

Amerada Petroleum Corp. No. 1 Rice, SE SE NE Section 32-7-4; dolomite 4,185 ft., total depth 4,372 ft., plugged back to 4,326 ft.; 29 bbl. of oil.

Schaefer No. 3 Zoeller, NE NE NE Section 6-6-5; Viola lime 3,958 ft., total depth 4,180 ft.; acidized; 135 bbl. of oil.

New work in Pottawatomie County: Watchorn Oil & Gas Co. No. 2-A Vanselous, C S½ NE SW Section 32-7-5, drilling 1,585 ft.; Ray Stephens, Inc., No. 1 Sharp C, NW SW SE Section 6-6-5, rig; Mudge Oil Co. No. 2 Baptiste, SE SE NE Section 20-7-4, cellar and pits; Ross Oil Co. No. 1-A Davis, NW NE SE Section 19-7-4, location.

Seminole County

Thompson and others No. 1 Brown, NE SW NE Section 33-8-7, Seminole County, was dry and abandoned at 3,373 ft., total depth.

H. S. Moss No. 1 Haight, C S½ NE NE Section 34-10-6, East Searight area, was dry and abandoned at 4,387 ft., total depth.

Same operator's No. 1 Harjo, C N½ SW NE Section 34-10-6, was bottomed at 3,764 ft., perforated casing in Cromwell sand at 3,726-36 ft., and was flowing by heads, estimated good for 200 bbl. of oil daily.

Campbell & White No. 1 Killingsworth, NW NE SW Section 14-9-6, Seminole area, found sand at 4,079-81 ft., was shot and swabbed 17 bbl. of oil and water. It was to be tubed and tested.

Atlantic Refining Co. No. 1 Reed, NW SW NE Section 21-7-6, was a location. Evans and others No. 3 Swan, NE NW SE Section 33-7-6, set 10-in. pipe at 45

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ft. and was waiting on cement; Wood Oil Co. No. 1 Helm, NW SE NW Section 27-9-5, was a location; L. A. Conner No. 1 Born Estate, SW SW SW Section 36-9-5, was a location; Villines No. 2 Redd, SE NE NE Section 35-7-5, was drilling below 835 ft.

Cities Service Oil Co. No. 1 Fish B, SW NE SE Section 19-7-8, Fish pool, flowed 375 bbl. of oil in 24 hours at total depth of 4,154 ft.

W. W. Hall No. 1 Jones, NE NW NE Section 11-8-6, Bowlegs area, was bottomed in Wilcox sand, but water intruded and it was plugged back and completed in Cromwell sand for an estimated 100 bbl. of oil daily.

Magnolia Petroleum Co. No. 2 Hawkins, SE SW NE Section 6-7-8, an old well, was plugged back from 4,209 ft. to 3,443 ft., was shot and recompleted for 23 bbl. of oil daily.

Charles McMahon No. 1 Haight, C N½ NE NE Section 34-10-6, was completed at 3,811 ft., total depth, for initial daily yield of 85 bbl. of oil.

Pontotoc County

Phillips Petroleum Co. No. 9 Norris, NE SW SW Section 25-2n-6, Fitts field, Pontotoc County, an old well deepened from 4,236 ft. to 4,642 ft. and plugged back to 4,488 ft., was acidized, pumped 36 bbls. of oil and was recompleted.

Same company's No. 12 Norris, C N½ SW SW Section 25-2n-6, an old well, was deepened from 4,262 ft. to 4,449 ft. and recompleted for 32 bbl. of oil daily.

Elbar Corp. No. 1 Haynes, NE SW SW Section 14-2n-7, was dry and abandoned at 1,436 ft., total depth.

Ed Davis No. 3 Gann, C N½ SE NW Section 15-4-7, failed to find oil in shallow sands and was dry and abandoned at 501 ft., total depth.

Magnolia Petroleum Co. No. 12 Norris, SW SW NE Section 25-2n-6, had Cromwell sand at 2,524-2,641 ft., total depth, was shot and estimated good for 20 bbl. of oil daily.

Simpson-Roodhouse No. 2 Statler, SE SW SW Section 34-2n-7, South Fitts area, was estimated good for 300 bbl. of oil and 7,000,000 cu. ft. of gas daily from sand at 1,831-48 ft.

Senora Oil & Gas Co. No. 1 Porter, NE NE NE Section 35-5-4, was drilling below 610 ft.

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Estimated Daily Production

Estimated daily production for Oklahoma for the week ending June 3, and for the preceding week, was as follows:

	Barrels	
	June 3	May 27
Allen	6,225	6,325
Billings	5,750	5,500
Burbank	7,750	7,800
South Burbank	9,275	9,325
Balance Osage	17,225	17,750
Blackwell district	3,775	3,525
Bristow-Slick	7,025	7,125
Chandler	1,525	1,650
Crescent	3,025	3,525
Cromwell	3,000	3,025
Cushing-Shamrock	9,975	9,950
Duncan district	3,850	3,975
Edmond	4,875	4,950
Fish	4,750	4,525
Fitts	26,725	26,700
Jesse	2,450	2,425
Graham-Fox	3,850	3,950
Gray	875	850
Healdton	9,050	9,250
Hewitt	3,725	3,825
Keokuk	3,625	3,600
Konawa	1,250	1,225
Lucien	8,775	7,850
Moore	2,725	2,775
Oklahoma City	100,575	99,650
Olympic	3,125	3,025
Ramsey	4,050	4,500
Sasakwa	1,375	1,350
Sholem-Alechem	2,175	2,250
Seminole district:		
Bowlegs	8,425	8,475
Carr City	2,900	2,925
Dora	3,675	3,700
Earlsboro	4,825	4,850
South Earlsboro	575	575
East Earlsboro	4,150	4,175
Little River	7,225	7,300
East Little River	775	750
Maud	925	850
Mission	1,525	1,575
Seminole	8,025	8,050
East Seminole	1,350	1,325
Searight	2,600	2,625
Total Seminole	46,975	47,175
St. Louis-Pearson	36,750	37,250
Tatums	1,850	1,725
Tonkawa-Garber-Thomas	4,075	4,150
Wewoka	2,075	2,050
Yale-Jennings	3,575	3,700
Other pools	87,500	91,500
Total Oklahoma	445,175	449,725

Lincoln-Oklahoma Counties

Mudge Oil Co. No. 4 Dowell, SW SW NW Section 10-14-6. Sac and Fox pool, Lincoln County, topped Prue sand at 3,057 ft., total depth 3,110 ft., was shot and completed for initial daily production of 75 bbl. of oil.

Wilcox Oil & Gas Co. No. 27 Sac and Fox, SW SW SW Section 15-14-6, had initial daily production of 45 bbl. of oil from Prue sand found at 2,980 ft., total depth 3,070 ft. It was shot.

In Oklahoma County, Transwestern Oil Co. No. 2 Meeker, NE NW NW Section 29-13-3w, Britton district, perforated casing at 6,514-45 ft. in Viola lime pay, was acidized and pumped 47 bbl. of oil and 380 bbl. of water in 24 hours.

Same operator's No. 1 well, NW NW SW Section 20-13-3w, perforated casing in Viola lime pay at 6,536-78 ft., pumped 10 bbl. of oil in 24 hours, and pumped off.

Wilcox Oil & Gas Co. No. 29 Sac and Fox, NE NE SW Section 15-14-6, was a location.

Okfuskee-Hughes Counties

Shell Petroleum Corp. No. 4 Gahagan, NE NE NW Section 11-11-8, Dill pool, Okfuskee County, topped Cromwell sand at 3,341 ft., total depth 3,381 ft., and had initial daily yield of 431 bbl. of oil.

Same company's No. 7 Johnson, NW SW NE Section 11-11-8, was dry and abandoned at 3,408 ft., total depth.

Creede Oil Co. No. 1-A McKinney, SW SW SE Section 26-9-9, Hughes County, was bottomed at 2,057 feet, was shot and completed for 2 bbl. of oil daily.

Hyer & Kirchner No. 2 Board, SW SE NW Section 10-13-10, Okfuskee County, was a rig. Shell Oil Co. No. 8 Replogle-Johnson, NW NW NE Section 11-11-8, was a location. Snyder & Swan No. 12 Wood, SE SE SW NE Section 35-11-9, was a location.

Okmulgee-Creek-Payne

Oklahoma Oil Corp. No. 3-A Smith, NW NE SE Section 17-13-11, Okmulgee County, was completed for 70 bbl. of oil daily after a shot in Wilcox sand topped at 3,260 ft. The hole was bottomed at 3,269 ft.

Culpepper and others No. 1-A Legon, NW NE SE Section 25-14-14, Okmulgee County, was dry and abandoned at 1,645 ft., total depth.

Dodge No. 17 Payne, NW SW SE SE Section 17-15-14, Okmulgee County, had salt sand at 808 ft., total

(Continued on Page 86)

Michigan Field Report

By
O. C. PRESSPRICH

43 Completions and 50 New Operations Make New Record

SAGINAW, Mich., June 5.—Completion records for Michigan were shattered during the past week simultaneously with the biggest week for new permits in the state's history. Of significance was the climb of the state's newest oil field in Kent County into first place in potential new production.

State-ordered proration went into effect June 1 in six Michigan fields, but it was too early to obtain information as to the effect the limiting of production from the prolific Van Buren and Allegan County fields will have on the industry. The state's new oil control board promulgated the regulations, which also prohibit drilling, with some exceptions, on tracts of less than 10 acres, declaring the purpose is to conserve Michigan oil and reduce waste and the danger of still more waste.

50 New Operations

During the past week there were reported 26 oil well completions, which increased Michigan's potential daily production by 11,500 bbl. One gas well was completed and 16 dry holes, and two locations were abandoned. At the same time permits for 50 new wells were granted by the state Conservation Department, subject to the new drilling unit regulations.

The industry boomed in Kent County, particularly in the Walker Township pool, where three big wells were completed. The county's completion total for the week was 10, all but two being commercial oil wells. Together the new producers contributed 50 per cent of the new potential production and established Kent County as the top district for the period.

Allegan County continued its good record with 8 oil wells out of 11 completions, while Van Buren County remained in front so far as activity is concerned on the customary in-and-out basis. The county had eight oil completions, an equal number of dry holes and two abandoned locations. Wildcat tests were abandoned in Barry, Ottawa and Roscommon counties. The only completion of the week in Clare County was a 500-bbl. well added by Pure Oil Co. to its extensive list of wells in the Redding pool.

Gulf Refining Co.'s producing division gave up its search for a deep producing formation in Bay County and went back to the Monroe to make its No. 1 Bateson, in Section 2 of Monitor Township, a small commercial well. Eight months' work was devoted to the test, sunk to around 4,450 ft. and then plugged back to 3,800 ft., where the well is being pumped for production of from 60 to 70 bbl. a day.

W. E. Ross completed a 5,500,000-cu. ft. gas well in Section 9 of the Clayton Township pool in Arenac County.

Biggest oil wells of the week were developed in Walker Township of Kent County as Swanson Consolidated Oil Co., which got the field's record producer 6 weeks ago, completed No. 2 J. G. Slykhouse in Section 32-7n-12w, at 1,823 ft., the production being 1,800 bbl. a day after acidization, and prior to the pinching in production to comply with the proration limit of 200 bbl. per day for that area. Not yet acidized at the time of reporting, another well which may be even better was the Crown Development Co. No. 2 Rex Johnson in Section 5-6n-12w, with total depth of 1,783 ft. Natural production was 1,500 bbl. a day. Section 32-7n-12w, also was profitable for R. E. King, who completed No. 1 John Mulder at 1,816 ft. and had a 1,000-bbl. well after acidizing. Other Kent producers rated from 200 to 600 bbl.

Columbia Township wells set the pace for the Van Buren field with Clapsaddle & Harris getting the best of the week from that area as No. 4 Locker in Section 13 flowed naturally at 1,000 bbl. a day. The Columbia pool also is under state proration control now, as is Allegan County, where the Salem pool continued to give best results with six producing completions, topped by W. R. Borough and others No. 1 B. Fein in Section 2, good for 800 bbl. naturally.

Below is the summary of the Michigan completion record for the week:

Allegan County

Cheshire Township (1n-14w)—Vanco Oil & Gas Co. abandoned No. 1 H. Richardson, NE NE SW Section 27, as a dry hole at 1,284 ft.

Heath Township (3n-14w)—Brailly Oil Syndicate No. 1 Harm Jopping, SW SW SE Section 3, was dry and abandoned at 1,665 ft.

Hopkins Township (5n-14w)—Bell & Marks, Inc., got two producers in Section 23. No. 1 Tiefenthal, NE NW NW, completed at 1,637 ft., started at 135 bbl. a day, while production is 150 bbl. a day from No. 1 Kidder, SE SW NW, completed at 1,638 ft. Both wells had been acidized.

Salem Township (4n-13w) — Usual excellent results attended the latest completions in the prolific Salem field. Biggest of the six new producers was the W. R. Borough, Inc., Allen and others No. 1 B. Fein, SE SW NW Section 2, completed at 1,692 ft. After it was acidized the well was rated at 800 bbl. a day. Socony-Vacuum Oil Co. had two completions, No. 3 Theresa Weber, SE NW NE Section 11, doing 200 bbl. a day after being acidized at its final depth of 1,595 ft., while No. 2 F. A. Smith, SE SE SE Section 15, total depth 1,585 ft., was acidized to increase production to 500 bbl. a day. Red-Man Oil Co. completed No. 2 fee at 1,575 ft. Production after acidizing was at the daily rate of 740 bbls. Gaylord W. Norton, Inc., was getting 125 bbl. daily after acidizing No. 1 Otto Homrick and others, NW SW SW Section 1, completed at 1,649 ft. Completed at 1,585 ft., Salem Oil & Gas Co. No. 1 Alois A. Smith, NW NW NW Section 23, rated 200 bbl. a day after it was given acid treatment.

Wayland Township (3n-11w)—The Robert Bond No. 1 Amos Buck, NW SW NW Section 9, was a dry hole, abandoned after drilling 1,821 ft.

Arenac County

Clayton Township (20n-4e)—W. E. Ross got another gas well in the Arenac pool. The No. 1 Archie Berry, C E½ SE Section 9, completed at 1,195 ft., produced 5,500,000 cu. ft. of gas in 24 hours.

Bay County

Monitor Township (14n-4e)—Gulf Refining Co. returned to the Monroe formation to get from 60 to 70 bbl. a day from the deep test No. 1 Bateson, C S½ SE SE Section 2. The test was drilled to 4,450 ft. and plugged back to 3,800 ft.

Barry County

Thornapple Township (4n-10w)—Thornapple Development Co. registered a wildcat failure when No. 1 Frank W. Moxon, SE NW SE Section 2, was abandoned after being drilled for 2,135 ft.

Clare County

Redding Township (19n-6w)—Pure Oil Co., in the Clare field, completed No. 8-B Charles S. Bicknell, N½ NE SE Section 28, at 3,897 ft. It was good for 500 bbl., natural flow.

Kent County

Walker Township (7n-12w)—R. E. King No. 1 John Mulder, SE SW SE Section 32, completed at 1,816 ft., was good for 1,000 bbl. a day. Swanson Oil Co., which touched off the current boom in Walker, added the biggest well of the week to its holdings by completing No. 2 J. G. Slykhouse, SW SW SE Section 32, at 1,823 ft. Production was rated at 1,800 bbl. a day after acidization. Crown Development Co. acidized No. 1 Armitage Estate, NW NE SW Section 33, to get a flow of 800 bbl. a day. The well was finished at a depth of 1,869 ft. Ide & Glavin Development Corp. completed No. 1 Riverside Sand & Gravel Co., SW NE SW Section 33, at 1,789 ft. Production after acidization was 750 bbl. a day.

Walker Township (6n-12w)—Henning & Norton No. 1 Ruth S. Bunker, NE NW SE Section 5, total depth 1,842 ft., after acidizing was good for 200 bbl. a day. Production after acidizing No. 1 John Gavin Estate, NW NE NW Section 5, was 300 bbl. a day. It is a Wolverine Natural Gas Corp. well, total depth 1,812 ft. Crown Development Co. rated No. 2 Rex Johnson, SW NE NE Section 5, at 1,500 bbl. a day, naturally. Completion depth was 1,783 ft.

Wyoming Township (6n-12w)—Both Wyoming completions were abandoned as dry holes. Harold E. Davies No. 1 E. G. and E. Springstead, NW NW SW Section 21, was abandoned at 1,842 ft., while drilling went to 1,910 ft. in the unsuccessful James J. McGerry, Inc., No. 1 Albert S. Koeze, SW NE SE Section 21.

Ottawa County

Jamestown Township (5n-13w) — Fortney Oil Co. abandoned as dry at 1,646 ft. No. 1 Peter Walters, SE NW NE Section 30.

Zeeland Township (5n-14w)—Robert C. Lentz, trustee, abandoned the wildcat, No. 1 Klaas L. Brower NW SW NW Section 34. The hole still was dry at 1,535 ft.

Roscommon County

Roscommon Township (22n-12w) — The Tamblyn & MacGillivray exploratory test was a failure. The No. 1 Gage Estate, NE NE SW Section 28, was abandoned as a dry hole after 3,816 ft. of drilling failed to indicate evidence of oil.

Van Buren County

Bloomingdale Township (1s-14w)—Bloomingdale Development Co., Inc., completed No. 4 Bert Decker, SW SE SE Section 7, at 1,215 ft. Acidized production was 100 bbl. daily. In Grimes & Sons No. 2 Fox, SE SE SW Section 7. Acidized production was 135 bbl. E. G. Thompson & Fitschett No. 1 Hitchcock, SE SE NW Section 7, a dry hole, was abandoned at 1,187 ft. Acidized daily yield was 100 bbl. from Howard E. Fowler, trustee, No. 3-J Ida Melvin, NW SW SE Section 8, completed at 1,223 ft. Gem Oils No. 1 Lloyd Russel, NE SW SE Section 13, was dry and abandoned at 1,307 ft. Also abandoned was the Calumet Syndicate No. 1 Rockwell Heirs, NE NW SW Section 16, which was dry at 1,263 ft. O. O. Borden completed No. 1 Willis Lufkin, NE NE NW Section 18, at 1,219 ft. After acid treatment the well produced 140 bbl. daily. H. J. Palmer No. 1 V. Thayer was abandoned as dry at 1,329 ft. Location was SW SW NE Section 35.

Bangor Township (2s-16w)—Bridger Basin Oil Co. abandoned as dry at 1,001 ft. No. 2 Oscar Ulrath, NE NW NW Section 28. R. T. & E. Corp. and others abandoned two locations, on the Clinkenbeards farm, No. 4, NE SW NE Section 5, and No. 5, SE SW NW Section 5.

Columbia Township (1s-15w)—J. W. McIntosh acidized No. 3 Henry, NW NW NW Section 12, completed at 1,199 ft., bringing daily production to 100 bbl. Daily Crude Oil Co. got acidized production of 500 bbl. daily from No. 2 William Teal, SE NE NW Section 12, completed at 1,190 ft. Clapsaddle & Harris No. 4 Locker, SE SW SE Section 13, was good for 1,000 bbl. a day

(Continued on Page 89)

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Kansas Developments

By
DAL DALRYMPLE

Deep Test in Douglas County; Start Wildcat Near Atchison

Deep production is to be sought in two wildcats due to be started soon in the Kansas sector of the Forest City basin, the locations for the tests in Douglas and Atchison counties being announced the past week. With the exception of a wildcat failure recently completed west of Topeka, in Shawnee County, these are the first deep tests to be started in the Kansas part of the basin since the big lease play began last year.

The Douglas County wildcat will be drilled by Three Star Oil Co. at No. 1 Lou Griffith, C NW SE Section 4-14-18, some 10 miles southwest of Lawrence and 3 miles west of Lone Star. It is on a block of about 2,500 acres held by the Three Star company, recently organized by a group of independent operators of Tulsa. John Holmes and the Northeast Kansas Oil Exploration Association of Lawrence assisted the Tulsans in completing their block and arranging details for drilling the well.

The contract calls for a test of the Arbuckle lime, expected at about 2,200 ft., unless profitable production is found at shallower depths. Bartlesville sand, already productive in Johnson County to the east, is expected in this test at around 1,200 to 1,400 ft. Locationtion is on a surface structure, on geology by Silas C. Brown, Delmar O. Branson, and Hugh F. Crain, geologists. It is 3½ miles east of a test near Twin Mounds 3½ years ago, but that was abandoned at 750 ft. Drilling is due to start at No. 1 Griffith by June 15, with the well scheduled to be completed by August 1.

Other tests in Douglas County and northeastern Osage County are expected to be announced within the next few weeks. Emmet C. Veeder of Cherryvale, Kans., and J. L. Herrington of Kansas City, Mo., are reported preparing to drill an Arbuckle lime test on a block being assembled south of the Lone Star area. Geologists of the Veeder company have been working on the block, and exact location for the test will be announced as soon as the block is completed. Gulf Oil Corp. has a block of about 12,000 acres in the Douglas-Osage county sector, and other companies and independents have leases in that general area.

Highlights of field operations elsewhere in Kansas during the past week included opening of an oil pool in Russell County; completion of another big producer in the Hittle pool, Cowley County, and the discovery of gas in Sherman County, near the Colorado line.

Cities Service Oil Co. No. 1 Dutt, NW NW SE Section 18-13-14w, opened a producing area 1 mile north of the Atherton pool, Russell County. It was bottomed at 3,122 ft. in Arbuckle lime and oil rose 350 ft. in the hole after plug in 7-in. casing was drilled. Tubing was being run.

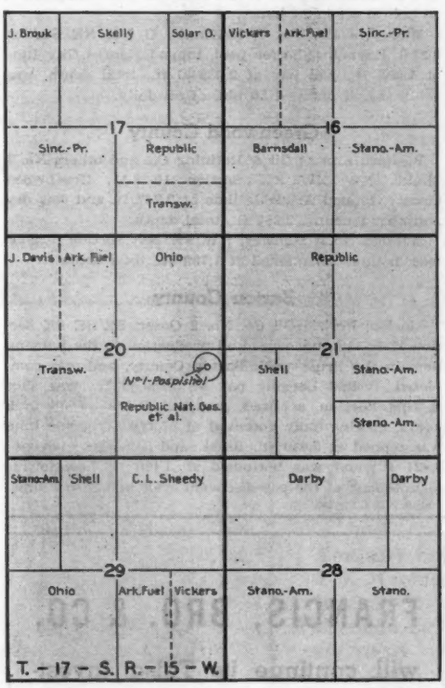
Barnett, Connelly & Harbar Drilling Co. No. 2 Waite, SE NW SW Section 21-31-4, in the Hittle pool, Cowley County, was rated good for 11,438 bbl. of oil daily after bottom-hole pressure computations. It was drilled to total depth of 3,357 ft. in Arbuckle lime. It is a south offset to the 17,508-bbl. well recently completed by these operators.

Goodland Independent Gas Co. No. 1 Keeran, NE NE NE Section 30-8s-39w, Sherman County, in northwestern Kansas, found Cretaceous gas pay at 1,000 ft., total depth 1,307 ft., and was estimated good for 50,000 to 75,000 cu. ft. of sweet gas daily. Location is near the town of Goodland, some 19 miles east of the Colorado line and about 47 miles south of the Nebraska line. Same operators have started work at No. 1 Giess, C Section 27-8-39w.

Potential production of Kansas oil wells passed the 4,000,000-bbl. a day mark in May, according to Theo A. Morgan, conservation director of the Corporation Commission. The total potential on May 20 was 4,005,186 bbl. daily for 19,097 wells.

Wildcat Developments

The first pool opener in Norton County was completed at Power Oil Co. and Olson Oil Co. No. 1 Van Petten, C NE Section 26-4s-21w, extending Kansas production northward to within 23 miles of the Nebraska line. It was shot in Lansing lime pay at 3,474-95 ft., was acidized with 6,000 gal. in two stages and swabbed 173 bbls. of 18.2-gravity oil in 15 hours. It was completed for 20 bbl. daily on the pump. Arbuckle lime topped at 3,610 ft. and drilled to 3,665 ft., total depth, was found unproductive. Other formation tops included Dakota 800 ft., Permian 1,431 ft., Cimarron anhydrite 1,720 ft., Neva 2,640 ft., Deer Creek 3,140 ft., Lansing-Kansas City 3,325 ft. This is the farthest northwest oil production in Kansas. Nearest production is the Faubion pool, some 24 miles southeastward in Rooks County. The location is 1¼ miles east of the Phillips County line, and about 20 miles northwest of Blue Stem Oil Co. No. 1 Donaldson, SE NE NE Section 25-5-18w, which is showing oil and may open the first pool in Phillips County.



Midcontinent Map Co., Wichita

Arbuckle lime production is the goal of No. 1 Pospishel, wildcat in Section 20-17-15w, Barton County, northeast of Otis, started by Republic Natural Gas Co.

E. Elmer Ash and Crown Petroleum Co. No. 1 Koch, NE NE NE Section 23-20-12w, was completed, opening a pool in Barton County, about 3 miles south of Ellinwood and 1 mile west of the Marchand pool, nearest production. It found Arbuckle lime at 3,355-57 ft., total depth 3,358 ft., was acidized with 1,000 gal., pumped 91 bbl. of oil and 23 bbl. of water in 8 hours, making daily potential of 273 bbl. of oil, with 69 bbl. of water.

Jock Garden and others No. 1 Lagree, SE SE SE Section 4-23-3w, Harvey County wildcat originally drilled to 280 ft. and recently deepened to Mississippi lime at 3,259 ft., total depth 3,430 ft., was dry and abandoned.

Amerada Petroleum Corp. No. 1 Gagelman, C NE NE Section 23-19-15w, Barton County wildcat, had La-Motte sand at 3,568 ft., and was dry and abandoned at 3,578 ft., total depth.

Dickey Oil Co. No. 1 Kollman, SW NW SE Section 18-11-17w, wildcat location in Ellis County, was reported abandoned.

Cramm & Sackrider No. 1 Allen, SE NE SE Section 13-21-15, Coffey County wildcat, spudded but was reported temporarily abandoned.

Estimated Daily Production

Estimated daily production for Kansas for the week ending June 3, and for the preceding week, was as follows:

	Barrels	
	June 3	May 27
Oxford City	875	950
Burrton	10,075	10,100
Ritz-Canton	5,500	5,650
Graber	1,250	2,225
Hollow-Nikkel	2,650	2,725
Lerado	925	775
Voshell	1,650	1,675
Wellington	1,900	2,025
Ellsworth County:		
Lorraine	1,275	1,100
Other pools	1,225	1,240
Rice-Barton counties:		
Bloomer	1,550	2,325
Chase	5,125	3,600
Geneseo	1,975	3,250
Raymond	575	475
Silica	11,525	11,200
South Silica	2,100	2,125
Keesling	800	750
Wherry	2,900	4,125
Miscellaneous Rice	7,105	7,435
Miscellaneous Barton	7,510	8,590
Russell County	22,775	22,050
Sedgwick County	3,600	3,625
Ellis:		
Bemis	5,550	6,425
Miscellaneous	2,120	2,260
Kingman County	755	450
Stafford County	5,265	5,795
Greenwood County	8,850	8,950
Butler County	17,500	18,925
Other fields	21,870	20,930
Total Kansas	156,775	161,750

New Outpost Wells

Republic Natural Gas Co. and others No. 1 Pospishel, NE NE SE Section 20-17-15w, Barton County wildcat, had started work. It is about 12 miles northwest of Hoisington and 4 miles northeast of the Otis field. Location is on a farmout from the Amerada and Stanolind companies, and was made on surface, subsurface and reflection seismograph surveys. Arbuckle lime production will be sought. It will be a rotary test.

Byram-Jackson-Blair Corp. No. 1 National, C NW NE Section 17-6-20, is location for a test in Atchison County, in the Kansas sector of the Forest City basin. It is about 5 miles west of the city of Atchison and around 40 miles northwest of the old Bonner Springs shallow gas and oil area in Wyandotte County. It is on a 5,000-acre block. Earl F. Wakefield, Wichita operator and contractor, has the drilling contract. Work is expected to be under way by June 20.

E. B. Shawver No. 1-C Hitchcock, C N½ NE NE Section 16-30-1w, wildcat north of the Wellington pool in Sumner County, was drilling around 2,000 ft.

Foraker and others No. 1 Grant, SW SW SW Section 18-31-3e, an old wildcat east of the Churchill pool in Cowley County, originally bottomed at 2,830 ft. in Arbuckle lime, plugged back to 2,415 ft. and was cleaning out, preparatory to testing oil showings in Kansas City lime.

Howard Brunson and others No. 1 Esfeld, NW NW SE Section 28-16-11w, wildcat southeast of the Prusa pool, Barton County, was rigging up.

Eason Oil Co. No. 1 Muret, SE NE Section 2-33-3e,

southeast of the Rainbow Bend pool, Cowley County, was a location.

Max Cohen and others No. 1 Gregory, SW SW NW Section 2-34-6, wildcat about midway between the Dexter helium pool and Otto and Esch gas areas in Cowley County, was a location.

Clarence Brosius and others No. 1 Rahn, SW SW NW Section 13-34-5, southwest of the Esch gas pool and east of Arkansas City, was another new Cowley County wildcat location.

Gulf Oil Corp. No. 1 Linville, SW SW SE Section 4-20-10w, wildcat ¾ mile south of the Rice County sector of the Silica field, was a location.

Bridgeport Machine Co. No. 1 Pierce, CSL N½ NE Section 29-20-7w, about ½ mile northeast of the town of Saxman, Rice County, was drilling below 1,530 ft.

Boris V. Lerke and Ray Whortan, Wichita geologists and engineers, were drilling below 400 ft. at their No. 1 well, C SW SW Section 21-32-15, wildcat 5 miles northwest of Independence in Montgomery County.

Cowley County

Arthur Brewer No. 1 Hughes, SE NE SE Section 20-31-4, extended the Hittle pool in Cowley County ¼ mile westward. It found Arbuckle lime at 3,380-83 ft., total depth, pumped 72 bbl. of 39-gravity oil daily and was completed as a minimum 15-bbl. well. It is ¼ mile west of Harbar-Barnett-Connelly No. 1 Waite, recently completed for potential of 17,508 bbl. of oil based on bottom-hole pressure tests, but checked about 37 ft. lower structurally than the big well.

Same operator's No. 3 Lewis, SE SW NE Section 28-31-4, found Arbuckle lime at 3,342-47 ft., total depth, pumped 637 bbl. of oil in 8 hours and made 24-hour potential of 1,912 bbl., pumping and flowing.

C. E. Roth and others No. 2 Gretsinger, SE NE NE Section 15-31-4, had Bartlesville sand at 2,999-3,017½ ft., drilled ½ ft. deeper and was dry and abandoned.

Trees Oil Co. No. 5 Littell, SE SW NE Section 19-30-4, Trees pool, topped Bartlesville sand at 2,859 ft., had pay at 2,862-83 ft., and was bottomed at 2,886 ft. It pumped 100 bbl. of oil in 8 hours and made daily potential of 301 bbl.

Willis L. Hartman, B. B. Blair and Tulsa Oil Corp. No. 6 Waite, SE SE SW Section 21-31-4, Hittle field, flowed 340 bbl. of oil an hour on initial tests, later making potential of 4,608 bbl. daily from total depth of 3,305 ft. in Arbuckle lime.

Johnson County

Sagamore Oil & Gas Co. No. 1 Knabe, NE NE NE NW Section 29-14-22, wildcat in Johnson County, on the rim of the Forest City basin in northeastern Kansas, opened a gas area in a sector where two wildcats recently opened Bartlesville sand oil pools. Bartlesville sand was found in No. 1 Knabe at 748-761 ft., total depth, and it produced 500,000 cu. ft. of gas daily, with 230 lb. rock pressure. Six-inch casing was set at 636 ft. Location is about ½ mile [illegible]west of the oil discovery well recently completed by the company at No. 1 Metropolitan, SW SE SE Section 20-14-22. The other Bartlesville sand oil discovery in the area was completed a short time ago at OK Supply Co. No. 1 Knabe, C NE NE Section 15-14-22. It is thought by some observers that these wells may prove a shoestring sand area for the county.

However, a failure was recorded the past week at T. W. Reid and others No. 1 Quintance, SW SW NW Section 22-14-22. It topped Bartlesville sand at 886 ft. and was dry and abandoned at 940 ft. If a line were drawn from No. 1 Metropolitan in Section 20-14-22 northeastward to OK Supply No. 1 Knabe in Section 15-14-22, the dry hole would be slightly south and east of the line.

Several other tests are drilling in Johnson County.

Cowan and others No. 1 Johnson, NW NE NW Section 3-14-22, wildcat west of Olathe and about 1½ miles north of the Gardner pool, as the new area in Section 15 has been tentatively named, was reported drilling below 400 ft.

Spearman & Trammell No. 1 Bigelow, NE SW Section 15-14-22, about ½ mile southwest of the Gardner pool discovery well, was reported drilling below 375 ft.

Butler County

Rex & Morris No. 3 Sutter, SE NW SE Section 7-28-7, Butler County, topped Bartlesville sand at 2,635 ft., was bottomed in sand at 2,653 ft., was shot and pumped 30 bbl. of oil in 24 hours.

Hugo Oil Co. No. 9 McGinnis, C NE NE Section 9-27-6, Reynolds-Shaffer pool, topped Kansas City lime at 1,805 ft., had pay at 2,239-50 ft., total depth, was acidized and pumped 50 bbl. of oil daily.

Greenwood County

Western Kansas Oil & Refining Co. and others No. 1 Shultz, NW NW SW Section 10-28-11, Greenwood County, topped Arbuckle lime at 2,267 ft. and was dry and abandoned at 2,282 ft., total depth.

McFaun No. 1 Hensley, NW SW NW Section 6-22-12, was dry and abandoned at 1,799 ft., total depth.

Barton County

Sinclair Prairie Oil Co. No. 2 Oeser, SE SE SE Section 17-16-11w, uncovered oil production in the Lansing lime in the Prusa pool, Barton County, and was completed. It had Lansing pay at 3,160-68 ft., was shot in that horizon, acidized, pumped 19 bbl. of oil in 8 hours, making daily potential of 57 bbl. Arbuckle lime was topped at 3,340 ft., Basal sand 3,385 ft., quartzite 3,421 ft., and was bottomed at 3,426 ft. Location is ½ mile east of the gas discovery well in Lansing lime. Other oil production is from Arbuckle lime and Basal sand.

Shell Oil Co. No. 3 Bitter B, NE SW NE SE Section 6-16-13w, Trapp field, had Arbuckle lime at 3,346-58 ft., total depth, was acidized, swabbed 355 bbl. of oil in 6 hours and was completed for daily potential of 53 bbl.

Sinclair Prairie Oil Co. and others No. 3 Seyfert, NW NW NW Section 28-16-11w, south side of the Prusa pool, was acidized and pumped 48 bbl. of 41-gravity oil in 8 hours, making potential of 143 bbl. daily. It had Arbuckle lime at 3,348-64 ft., total depth.

Frank Hollow and others No. 1 Andrea, C W½ NW NW Section 19-20-11w, east offset to the discovery well in the Marchand pool, topped Arbuckle lime at 3,298 ft., total depth 3,311 ft. It was acidized and pumped 204 bbl. of 41.6-gravity oil in 12 hours, and was rated potentially at 3,262 bbl. daily after depthograph computation. It is the second producer in the pool.

Stanolind Oil & Gas Co. No. 9 Schwartz, C S½ NW Section 2-20-11w, Barton County sector of the Silica field, was acidized, pumped 92 bbl. of oil in 8 hours and made potential of 276 bbl. Gravity of the oil was 43°. It had Arbuckle lime at 3,291-3,304 ft., total depth.

Rice County

Gulf Oil Corp. No. 1 Nickols, C W½ SW NE Section 30-19-9w, Chase field, Rice County, found Arbuckle lime at 3,245-49 ft., total depth, was acidized, pumped 359 bbl. of oil in 8 hours and made potential of 1,080 bbl. Gravity of the oil was 46°.

Continental Oil Co. and others No. 3 Michekis, NW NW SW Section 12-18-8w, Geneseo pool, pumped 242 bbl. of 40-gravity oil in 8 hours, making 24-hour potential of 725 bbl. Production was from Arbuckle lime at 3,237-47 ft., total depth.

Skelly Oil Co. No. 6 Volkland B, NW SW NW Section 5-18-10w, Stumps area, topped Arbuckle lime at 3,208 ft., was bottomed at 3,217 ft., was acidized and pumped 231 bbl. of oil in 12 hours. It made depthograph potential of 4,894 bbl.

Herndon Drilling Co. No. 1 McGlinn, C W½ SW SW Section 4-20-9w, Midway pool, was acidized and pumped 301 bbl. of oil in 8 hours from Arbuckle lime at 3,240-57 ft., total depth. It made daily potential of 902 bbl.

Gulf Oil Corp. No. 1 Handy, C E½ SE SE Section 25-19-10w, Chase field, had Arbuckle lime at 3,283-90 ft., total depth. After acidizing, it pumped 182 bbl. of oil and 13 bbl. of water in 10 hours, and made potential of 354 bbl. of oil, with 42 bbl. of water daily. Gravity of the oil was 46°.

Shell Oil Co., Inc., No. 1 Welsh A, C SW NW Section 1-20-8w, ¼ mile east of the Lyons gas pool, had started work. Schneider, Pulse & Gerbrand No. 1 Partington, C S½ SE SW Section 22-21-9w, ½ mile east of the Wellman gas area, had started drilling.

Russell County

Cities Service Oil Co. No. 7 Bender A, NE SW NW Section 25-15-14w, Trapp field, Russell County, found Arbuckle lime at 3,309-14 ft., total depth, was acidized, made computations with echometer and was rated potentially at 4,985 bbl. of oil daily. Gravity of the oil was 39°.

Sinclair Prairie Oil Co. No. 3 Hefferman, NW SW NE Section 26-15-13w, Sellens area, an old well bottomed at 3,255½ ft., was deepened to 3,517 ft. and recompleted as a water disposal well.

Lario Oil & Gas Co. and others No. 1 Mills, SW SE SW Section 12-14-15w, Gorham area, found Lansing lime at 3,036-46 ft., was bottomed at 3,064 ft. and was treated with 7,000 gal. of acid. It pumped 235 bbl. of oil in 8 hours and made daily potential of 705 bbl.

Witt and others No. 1 Speener, SW NE Section 7-14-14w, ¾ mile southeast of the Millberger pool, had moved in material.

Marion County

Jack Ryan No. 2 Bucher, NW NE NE Section 28-17-4, Lost Springs area, Marion County, had spudded but was reported abandoned.

Ellis County

Cities Service Oil Co. No. 8 Rumsey, NE SW SE Section 23-11-17w, Bemis field, Ellis County, was completed for echometer potential of 70,907 bbl. of oil, with maximum capacity of 3,500 bbl. It was acidized with 500 gal. Five-inch casing was set at 3,440 ft. Gravity of the oil was 35°.

Courtney B. Davis No. 1 Jensen, SW SE SW Section 12-12-18w, Walter pool, had Arbuckle lime at

(Continued on Page 85)

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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ont., June 3.—Crude oil and naphtha production from all Alberta fields in April totaled 543,489 bbl. (18,116 bbl. per day) compared with 366,898 bbl. (11,835 bbl. per day) in March. Turner Valley limestone crude increased from 334,668 to 514,823 bbl. and Turner Valley shallow crude from 751 to 759 bbl. For April, naphtha production is classified as 5,460 bbl. from gas wells and 20,552 bbl. from absorption plants against a combined March production of 28,049 bbl.

Allowables Increased

The aggregate Turner Valley crude allowable was increased from 22,500 to 25,000 bbl. a day from 72 wells, effective May 23. Royalite Oil Co. No. 38, LSD 16, Section 8-18-2w5, is the largest producer, with 816 bbl. Other major wells are: Royal Canadian Oil Co. No. 2. 778 bbl.; Home Oil Co. No. 2 Millarville, 773 bbl.; Vulcan Brown Petroleums No. 1, 739 bbl.; Royalite Oil Co. No. 36, 684 bbl.; Extension Rooyalties No. 1, 661 bbl.; Sundance Royalties No. 1, 643 bbl.; Frontier Royalties No. 1, 624 bbl.; Royalite No. 30 and Anglo-Canadian Oil Co. No. 3, 622 bbl. each; Commoil No. 1, 612 bbl. Turner Valley Royalties No. 1, the first west flank crude well, drilled in June 1936, is allotted 222 bbl.

Turner Valley Completions

Several Turner Valley wells recently finished in the lime are testing production. In the southwest extension, George Harris and associates No. 1, LSD 13, Section 9-18-2w5, finished in the black lime at 7,454 ft., dropped off rapidly after developing a big flush production. After reacidizing the lower horizon the packer was removed when an 8-hour production test brought more than 800 bbl. The upper porous zone, which did not respond to the first acid treatment, is being reacidized. Location is immediately west of National Petroleum Corp. No. 2, which owing to faulting did not reach the lower lime, and immediately east of Royalite No. 38, the largest producer in the field.

In West Central Turner Valley, East Crest Oil Co. No. 4, LSD 8, Section 6-19-2w5, finished at ,040 ft., showed a tight limestone. It was gun perforated and acidized, and developed a fair produc-

(Continued on Page 99)

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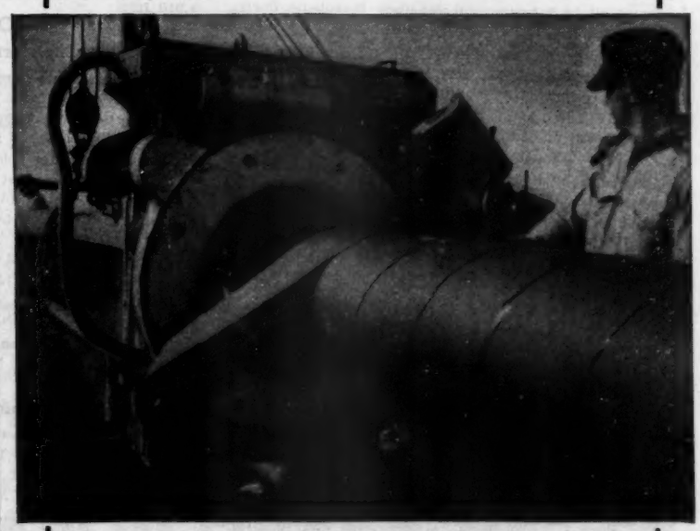

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Rocky Mountain Area

By T. R. INGRAM

Work Increases at Lovington, East Extension Well Flowing

DENVER, Colo., June 5.—The Lovington pool in Lea County held interest of New Mexico operators this week, with two new tests starting, one well completed and two more drilling in pay sands.

The new Lovington tests were Magnolia Petroleum Co. No. 2-R State, C NE SE Section 1-17-36, offsetting No. 1-R State, recently completed for 301 bbl. of 39-gravity oil in 9 hours; and Amerada Petroleum Corp. No. 2-LA State, C NE SW Section 1-17-36.

The Lovington completion was United Producers Inc., No. 1 Caylor, NE NE NW Section 6-17-37. It topped pay at 4,620 ft., total depth 4,942 ft., and flowed 10½ bbl. of oil an hour for 16 hours through ¾-in. choke on 2-in. tubing set at 4,922 ft. Gas gaged 156,000 cu. ft.

Extension of the area ¼ mile northward on the east side seemed assured by the performance of Repollo Oil Co. No. 2-182 State, in Section 31-16-37. It flowed 215 bbl. of oil in 13 hours from pay zones beginning at 4,660 ft. to 4,980 ft., total depth.

Completions elsewhere in Lea County:

Texas Co. No. 1-Z State, C NW NW Section 2-18-34, Vacuum field, had pay at 4,445 ft., total depth 4,700 ft., flowed 236 bbl. of oil in 18 hours through ⅞-in. choke on tubing.

Magnolia Petroleum Co. No. 1 State-Bridges, C NE NW Section 23-17-34, had lime pay at 4,400 ft., total depth 4,650 ft., and flowed 122 bbl. of oil in 4 hours through ½-in. choke on 2½-in. tubing set at 4,647 ft.

Continental Oil Co. No. 5 Sanderson B-14, NE NW SW Section 14-20-36, Monument area, flowed 69 bbl. of oil in 3 hours through ¾-in. choke on 2-in. tubing set at 3,836 ft. It had pay at 3,790 ft., total depth 3,843 ft.

Aloco Oil Co. No. 2-B Carson, C NW SE Section 28-21-37, Hardy pool, found pay at 3,790 ft., was bottomed at 3,843 ft. and set 2-in. tubing at 3,747 ft. It flowed 132 bbl. of oil in 24 hours through tubing, with 350,000 cu. ft. of gas.

Gulf Oil Corp. No. 5-E Matters, SW SW NW Section 12-22-36, South Eunice area, had pay at 3,720-85 ft., total depth, and flowed 887 bbl. of oil through tubing in 24 hours, with 961,000 cu. ft. of gas. Five and one-half inch casing was set at 3,690 ft.

Continental Oil Co. No. 1-A Elliott, C SE SE Section 21-22-37, an old well in the Penrose area, was deepened to 3,648 ft., set 2-in. tubing at 3,644 ft., and pumped 25 bbl. of oil in 20 hours.

J. C. Clower No. 1 Christmas, SE SE SW Section 28-22-37, Penrose pool, found pay at 3,524 ft., total depth 3,690 ft., was shot, flowed 96 bbl. of oil daily through tubing, with 200,000 cu. ft. of gas. Seven-inch casing was set at 3,412 ft.

Repollo Oil Co. No. 2-C State, NE SE SE Section 32-24-37, Mattix pool, had pay at 3,505 ft., total depth 3,621 ft., plugged back to 3,593 ft., set packer at 3,302 ft., and flowed 70 bbl. of oil through tubing in 24 hours.

Three failures were recorded in Eddy County: A. W. Ritter No. 1 State, SE SE NW Section 15-21-27, was plugged and abandoned at 628 ft., total depth, in sand.

Flint Production Co. No. 1-L Dexter, SE NW SE Section 15-17-30, was plugged and abandoned when water intruded at 4,335 ft., total depth.

Rip C. Underwood No. 1 Quillen-Bruce, NE NE SE Section 4-19-31, was dry and abandoned at 4,115 ft., total depth.

In De Baca County, Land Owners Oil Co. No. 1 McAdoo, SW cor. Section 16-1s-27, was reported abandoned at 5,860 ft. Plans to deepen were suspended.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 Pajarita, Sec. 22-9n-1e. Drlg. below 1,300 ft.

San Juan County

Continental Oil Co. No. 91 Rattlesnake, C NW NW Sec. 1-29n-19w. Drlg. 788 ft.; 5⅛-in. at 750 ft.

Al Greer No. 2 Thompson, SW SE SW Sec. 10-30n-11w. T.D. 1,065 ft.; rng. 6⅝-in.

Geo. Goodwin No. 1, NE NW NW Sec. 16-30n-11w. Drlg. 980 ft.

Torrance County

Drice Co. No. 1 Garland, NE SE Sec. 32-7n-7e. S.D. 1,910 ft.

WYOMING

Big Horn County

The Yale Petroleum Corp. has a good black oil completion in its No. 2 Yates, Lot 57, approximately NE NW SW Section 34-56n-97w, on the Garland dome, in the Madison lime at 4,100 ft., total depth. It is flowing 100 bbl. per hour after acidizing with 2,000 gal. It had the top of the Madison at 3,650 ft. and the 7-in. casing was cemented at 3,914 ft.

The Ohio Oil Co. has commenced drilling a north offset in its No. 1 Syverson.

Ohio Oil Co. No. 1 Syverson, Sec. 34-54n-93w (SE SW NW Lot 53). T.D. 280 ft.; 13⅜-in. cmtd. 113 ft. with 100 sacks; W.O.C.

Frank S. Scott No. 1 Robertson, SE SE SE Sec. 6-54n-93w. Drlg. 250 ft. in Chugwater.

Carbon County

Sinclair-Wyoming Oil Co. No. 13 Wertz, NE NW NW Sec. 7-26n-89w. Drlg. 3,520 ft.

Natrona County

The General Petroleum Corp. No. 1 Government, on Cole Creek, after testing 100 bbl. per day in the Dakota through perforated casing, plugged back and tested saturation in the Muddy and then perforated the casing at 7,600-7,700 ft. and found some additional saturation in the Mowry shale. However, these horizons will be cemented off and the well recompleted in the Dakota and Lakota.

Niobrara County

Lance Creek had one completion, four new locations and one new well getting under way. The completion was the Continental Oil Co. No. 3-B Dielman, SW SE NW Section 8-35n-65w, for the account of the Buck Creek Oil Co. It was drilled to 5,595 ft. and had the Leo horizon at 5,531-95 ft. and the saturated zone at 3,551-95 ft. Rotary table elevation is 4,533 ft. It was swabbing 35 bbl. per hour at last report. It was treated with 1,000 gal. of acid after drilling mud had been impregnated with lime. It is a north offset to the Adams Oil & Gas Co. No. 1 Baker, in the southern part of the field.

The new method of bringing in Lance Creek wells adopted in the past few weeks is meeting with considerable success. Carbonated mud is used in drilling in, the proportions being 1 part of 100-mesh screened lime to 10 parts of mud. The mud is weighted with Visco-Wate base. When the drilling is completed, the hole is washed with 1,000 to 2,000 gal. of inhibited acid which eats away the lime and causes the mudded walls to break down. The process not only saves time, but colmpletely cleans the saturated horizon.

Three of the new locations were made by the Continental Oil Co. and one by the Ohio Oil Co. The Continental No. 16 Tom Bell is an outside well on the east side. Same company's No. 6 Rodeo-4 is ½ mile to the northeast of the nearest Leo sand well and will mark a considerable extension of the pool. The other Continental well is its No. 4 Apex O.P.C.-3. The Ohio location is its No. 12 Elizabeth Lamb, a west offset to the Minnelusa Oil Corp. No. 1 Marline, which is getting under way.

The new operation spudding is the Minnelusa Oil Corp. No. 1 Marline, an outside well, but on the same contour as the Minnelusa No. 1 H. & M.3. This was a location staked last fall by J. E. Manning on the Hewitt Brothers lease purchased from the Government which the Minnelusa company has contracted to drill.

Minnelusa Oil Corp. No. 1 Marline (formerly J. E. Manning No. 1 Hewitt), NW SW SW Sec. 4-35n-65w. Drlg. 1,630 ft.

Ohio Oil Co. No. 12 Elizabeth Lamb-Acct. 2, NE SE SE Sec. 5-35n-65w. C.&P.; (first report).

Continental Oil Co. No. 4 Apex O.P.C.-3, NW NE SW Sec. 34-36n-65w. Loc.; (first report).

Continental Oil Co. No. 6 Rodeo-4, NW NW NE Sec. 35-36n-65w. Loc.; (first report).

Continental Oil Co. No. 16 Tom Bell Cattle, NW SW SW Sec. 34-36n-65w. C.&P.; (first report).

Argo Oil Corp. No. 1 U. S.-40, NW NW SW Sec. 8-35n-65w. B.R.

Continental Oil Co. No. 4 Apex O.P.C.-4, SE SE NW Sec. 35-36n-65w. T.D. 4,128 ft.; fsg. for D.P.

Continental Oil Co. No. 9 Rohlff, SE NE SE Sec. 31-36n-65w. Drlg. sh. 2,270 ft.

Continental Oil Co. No. 15 Tom Bell Cattle, C SW SW Sec. 34-36n-65w. Drlg. dolo. 5,420 ft.

Ohio Oil Co. No. 11 Putnam, SE SE SW Sec. 33-36n-65w. Drlg. 5,195 ft. in upper Leo; top Conv. 4,782 ft.

Continental Oil Co.-Buck Creek Oil Co. No. 8-B Schuricht, SW NW SE Sec. 6-35n-65w. Cg. 5,148 ft.

F. F. Hintze et al No. 1 Wright-Govt., C NW SE Sec. 30-36n-63w. T.D. 4,964 ft.; rng. 7-in. to drill to Minnelusa.

Fall River Roy. & Prod. Co. No. 1 Govt., CSL SE SE Sec. 35-40n-61w. Drlg. 1,585 ft.; 12½-in. at 1,000 ft.

Park County

Dry Creek Oil Co. No. 1 State, C NE NW Sec. 16-50n-100w. Drlg. 900 ft.

Sublette County

California Co. No. 1 Unit 1, C SW NE Sec. 14-31n-109w. Drlg. 4,867 ft.

Sweetwater County

The report that the Mountain Fuel Supply Co. is going back into its No. 1 Charles Stone, C SW SW Section 18-19n-103w, North Baxter basin, to plug back and test upper horizons will arouse considerable interest in the East where there was an unconfirmed rumor a year ago that this operation was showing for an oil well. It was drilled in 1937 to a total depth of 4,546 ft. and was reported to have had water in the lower Sundance and was to be completed as a water well. An earlier report said it had some gas in the upper Sundance and it is now stated that it will plug back to that horizon and test. The horizon or depth at which the oil was reported to have been encountered was not identified and there is nothing to substantiate the rumors.

The company also is resuming on its No. 1 C. C. Clark which was indefinitely suspended at 300 ft. in 1937.

Mountain Fuel Supply Co. No. 1 Clark, NW SE SW Sec. 12-19n-104w. Drlg. 750 ft.

Mountain Fuel Supply Co. No. 1 Stone, C SW SW Sec. 18-19n-103w. T.D. 4,546 ft.; prep. to P.B. and test upper horizons.

Sinclair-Wyoming Oil Co. No. 84-A, SW NW NW Sec. 11-26n-90w. Drlg. 300 ft.

Salegna Oil Co. No. 1 Union Pacific, C SW SW Sec. 10-20n-104w. T.D. 5,230 ft.; set whpstk. at 2,836 ft.

Weston County

Dornacher & Neiman No. 1 Neiman, NW NW NW Sec. 6-47n-64w. Drlg. 300 ft.; (first report).

Lem Johnston No. 1, NW SW Sec. 24-44n-63w. Drlg. 3,305 ft.

John Brorphy No. 1 George, SW SE NW Sec. 12-48n-64w. Drlg. 2,373 ft. in base of Minnelusa; will test Madison.

F. P. Dilger et al No. 4 Ost, CNL NE NE Sec. 25-46n-64w. Cg. in Sundance below 2,300 ft.

Hunter & Satterlee No. 1 Draper, NW NW NW Sec. 10-46n-63w. Drlg. 200 ft. in Thermopolis sh.

Kroker et al No. 2, CNL NE NW Sec. 31-47n-63w. Drlg. 160 ft.

MONTANA

Glacier County

Cut Bank had one completion and four new operations. One of the latter is in North Cut Bank in Nadeau Brothers No. 2 Government, a southwest offset to Newell & Chandler No. 1 Hinstrager, recently completed for 43,000,000 cu. ft. of gas. It will be drilled with portable rotary by Newell & Chandler, using the outfit which brought in the gasser.

The Santa Rita Oil & Gas Co. No. 2 Government (078744-B) SW SW NE Section 7-32n-5w, swabbed 50 bbl. in 8 hours at 2,879 ft., total depth, from the Cut Bank sand at 2,840-74 ft. Main pay was at 2,865-68 ft.

Nadeau Bros. No. 2 Govt., C SW NW Sec. 24-37n-5w. M.I.M.; (first report).
Santa Rita O. & G. Co. No. 2 Jordan, CNL NW SE Sec. 7-32n-5w. R.U.
R. C. Tarrant No. 3 Yunck, SW SW NW Sec. 12-34n-6w. R.O.G.; (first report).
Olive Oil Co. No. 5 Winkler, NE NE NE Sec. 35-35n-6w. Spdg. 40 ft.; (first report).
K. D. Pardee No. 4 Tribal 179, SE NE SE Sec. 12-32n-6w. Drlg. 2,600 ft.
Santa Rita O. & G. Co. No. 2 Govt. (078695-B), C SE NE Sec. 29-33n-5w. Drlg. 2,050 ft.
Dakota-Montana Oil Co. No. 2 Gilham, NE SE NE Sec. 3-34n-6w. Drlg. 2,830 ft.
Texas Co. No. 2 Hessler, CSL NE NE Sec. 19-33n-5w. Drlg. 1,980 ft.
Glacier Prod. Co. No. 1 Larson, CEL NE NW Sec. 35-36n-6w. Drlg. 2,060 ft.
Glacier Prod. Co. No. 2 Hawkins, NE NE SW Sec. 17-33n-5w. Drlg. 600 ft.; Colo. 565 ft.; 10¾-in. 587 ft.
Glacier Prod. Co. No. 3 Corrigeaux, C SE SW Sec. 21-33n-5w. Drlg. 2,635 ft.
A. R. Pardue No. 2 Tribal-170, NW SW SW Sec. 7-32n-5w. Cmtd. 10¾-in. 543 ft.; W.O.C.
R. C. Tarrant No. 4 State, SE NE SE Sec. 36-34n-6w. Drlg. 1,200 ft.; Colo. 485 ft.; 10¾-in. 504 ft.
A. B. Cobb No. 1 Vargo, C SE NE Sec. 19-37n-4w. S.D. 2,600 ft.
Tarrant-Wyley No. 2 Connolly, C SW NE Sec. 31-34n-5w. Drlg. 2,700 ft.

Meagher County

Dan Drumheller No. 1 Moss Agate, SW SE NE Sec. 25-7n-7e. Drlg. 435 ft.

Teton County

Zodiac Oil Co.-Gulf States Oil Co. No. 1 Kellogg, NE NW NE Sec. 33-28n-5w. T.D. 2,846 ft.; tstg.; making some oil and wtr.
R. C. Tarrant No. 1 Hoeschen, NE SE Sec. 34-27n-5w. Loc.; (first report).

Toole County

Kevin-Sunburst had two completions and three new operations. There also was a new operation getting under way on the Bow and Arrow structure in the Montana Gas Co. No. 3.

Prevol & Shea No. 2 Government, SW NW SW Section 11-35n-3w, swabbed 15 bbl. per day naturally at 1,815 ft. from the contact at 1,788-1,815 ft.

K. C. Morton No. 1 Government, SW SW SE Section 1-35n-3w, was completed at 1,813 ft. for 7 bbl. of oil and 1 bbl. of water per day after acidizing.

Montana Gas Co. No. 3, C NW NE Sec. 19-37n-1e. Spdg. 200 ft.; (first report).
Coolidge & Coolidge No. 5-A State, SW SW NW Sec. 36-36n-2w. Spdg. 100 ft.; (first report).
O. A. Nepsted No. 3 Haugen, NW NE NW Sec. 11-35n-3w. Drlg. 325 ft.; (first report).
Superior Pet. Co. No. 8-A Govt., CEL NW NE Sec. 12-35n-3w. T.D. 900 ft.; fsg.; (first report).
G. & A. Oil Co. No. 2 Krause, SE SE SE Sec. 9-35n-3w T.D. 1,300 ft.; 8¼-in. at 990 ft.
Superior Pet. Co. No. 8 Govt., CEL NW NW Sec. 12-35n-3w. Drlg. 435 ft.
Coolidge & Coolidge No. 4-A State, NW NW SW Sec. 36-36n-2w. T.D. 1,558 ft.; Sunburst 1,528-58 ft.; no test.

COLORADO

Boulder County

J. A. Warren No. 3 Maxwell, NW NE NW Sec. 24-1n-17w. Spdg. 85 ft.
Reynolds & Rohr No. 1 Thomas, SW SW Sec. 17-1n-70w. S.D.O. 2,138 ft.; will D.D. under management of Reynolds.

Fremont County

T. E. Maloney No. 1, SE SW Sec. 34-19s-69w. Drlg. 325 ft.; S.G. 300 ft.
Waterville Oil Co. No. 2 Persons, CWL NE NE Sec. 17-19s-69w. Drlg. 110 ft.

Garfield County

Roaring Fork Oil Co. No. 1 Patterson, C NE Sec. 36-7s-88w. T.D. 2,008 ft.; contr. M.I. light rot. to D.D.

Huerfano County

Considerable interest is being shown in the Oak View district where J. G. Tomkins & Son brought in a small well at 412 ft. about a year ago in their No. 1 Ojo, NE NE NE Section 10-29s-69w. This hole, drilled with a small bit on a 3½-in. pipe, had a show of oil with water, but was not in much of a condition for a test. Several months later it was reported making 16 bbl. of oil in 3 days; after being worked over it is now on production and is reported making not to exceed 10 bbl. per day. Location is to the west of the town of La Veta. The present activity is not only in the vicinity of this well, but extends to the east of La Veta. The Tomkins firm started its No. 2 Ojo in Section 3-29-69 last December and drilled to 328 ft. where it shut down until recently. It is to the northwest of the discovery. It has resumed and is reported drilling at 805 ft. in hard sandy shale. S. W. Pressey spudded May 29 in his No. 3 Ojo, an east offset to the Tomkins well. The Pressey deep test, No. 2 Adams, is located to the northeast of these wells. Miller & Hall No. 1 Hamilton is in another district to the east of La Veta. A summary of drilling wells, as reported, is as follows:

J. W. Tomkins & Sons No. 2 Ojo, SE SE SE Sec. 3-29s-69w. Drlg. 805 ft.
S. W. Pressey No. 3 Ojo, NW NW Sec. 11-29s-69w. Spdg.
S. W. Pressey No. 2 Alamo, C SW SE Sec. 3-27s-68w. Drlg. 1,910 ft.
Miller & Hall No. 1 Hamilton, SE NW Sec. 20-29s-67w. Drlg. sh. 550 ft.
Baker-Dunigan No. 1 Firm Bros., SE NE Sec. 3-29s-69w. Spd. to 150 ft. and S.D.

La Plata County

Nick Spatter No. 1-X Bryce, C SW SW Sec. 32-33n-9w. T.D. 2,352 ft.; trying to land 8¼-in. on bttm.; troubled with gas.

Mesa County

Continental Oil Co. et al No. 1 Miller, SW SW NW Sec. 36-8s-91w. Drlg. 9,440 ft.

Moffat County

The MacKinnie Oil & Drilling Co. No. 1 Coles, SW SW SE Section 1-3n-92w, a test on the north flank of the Thornburg (Morapas) dome, joint with the Morapas Petroleum Corp., encountered water in the Sundance sand and is plugging to abandon at 3,550 ft., total depth. It had several shows of oil and gas, but none proved commercial. Location is in a fault block and was drilled on the theory that the oil might have been trapped.

Cooperative O. & G. Co. No. 1 Gossard, CWL E½ E½ Sec. 29-5n-93w. M.I. rig.
C. R. Privett No. 1 Sutton, NE NE SW Sec. 1-5n-96w. T.D. 1,164 ft.; res. after winter S.D.; U.R. 8¼-in. for F.S.O.
J. S. Warner No. 1 Baker, NE NE SW Sec. 35-5n-96w. Spd. and S.D.

Kansas Fields

(Continued from Page 82)

3,696-3,705 ft., total depth 3,720 ft. It was treated with 12,500 gal. of acid, pumped 245 bbl. of 35-gravity oil in 8 hours and made daily potential of 736 bbl.

Stafford County

Stanolind Oil & Gas Co. No. 2 Sims, C N½ SW NE Section 11-24-11w, Zenith field, Stafford County, was acidized, flowed 230 bbl. of oil in 2 hours and made bomb potential of 4,588 bbl. daily. Gravity of the oil was 42°. Production was from Misener sand at 3,716-26 ft., total depth.

Reno County

Westgate-Greenland Oil Co. No. 1 John, SE SE SW Section 25-22-5w, old well in the Buhler pool, Reno County, bottomed at 3,913 ft. in Simpson sand, was plugged back, shot and acidized in Viola lime at 3,892-98 ft., opening a new producing zone for the area. It pumped 175 bbl. of oil in 8 hours, making new poten-

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tial of 525 bbl. Original potential of 850 bbl., from Simpson pay, had declined and it was producing less than 100 bbl. daily from the deeper formation.

C. L. Carlock and associates No. 1 Teeter, SW SW SW Section 30-22-4w, topped Simpson sand at 3,903 ft., the hole filled with water at 3,907 ft., and it was abandoned at 3,942 ft., total depth.

Missouri Activity

ST. JOSEPH, Mo., June 5.—The search for oil and gas in the Forest City basin, already encircling St. Joseph in all directions, is approaching almost to the gates of this city, with work expected to start in the immediate future at a location 3 or 4 miles east of here.

Bob Miller of Wichita, who has assembled a block of approximately 5,000 acres in Buchanan County, was in Wichita the past week-end making preparations for starting the wildcat. Sam Murphy, Kansas drilling contractor, will drill the well.

The exact location has not been announced, but will be on what has beeen defined as one of the more outstanding structures in the basin. Correlation of formations in several wells previously drilled on almost all sides of St. Joseph indicates the axis of a large dome exists 3 to 4 miles east of the city. Oil men who have studied the structure are enthusiastic over it, some expressing the belief it may contain oil and gas in great volume. About 10 years ago a well drilled on the north slope of the structure had good showings of oil and gas. Another well drilled on the south slope of the structure had similar showings, according to records of the Missouri Geological Department. A third well drilled east of the top of the structure produced sufficient gas to light a flare torch, but as it stopped at 1,105 ft., the deeper sands though to be present were not tested.

Landowners in the area are anxious to have a deep test drilled, and have cooperated with Mr. Miller and associates in completing the block.

A failure was recorded in Cass County, south of Kansas City, the past week at Charles C. Lewis and others No. 1 Chandler, NE NE NE Section 4-45-33w. It topped Squirrel sand at 565 ft., Mississippi lime 842 ft., Kinderhook shale 1,216 ft., St. Peter sand 1,300-24 ft., Arbuckle lime 1,335 ft., and was dry and abandoned at 1,500 ft., total depth. No showings were reported.

Farrar, Hopp and associates have completed three shallow test wells on their block in Johnson County, southeast of Kansas City. It was reported they soon will start a deep test on their block in Township 46n-28w.

Berry Brothers No. 1 Rule, Section 20-53-33w, Platte County wildcat, was reported drilling below 625 ft. and checking high structurally. No water was present in thick sand bodies that have been drilled. Mississippi lime, St. Peter sand and Arbuckle lime zones are due to be tested.

Oklahoma Fields

(Continued from Page 78)

depth 836 ft., plugged back and shot at 808-825 ft., and was completed, pumping 4 bbl. of oil daily.

Tibbens No. 1 Jones, SE SE NW Section 18-14-9, Creek County, found Layton sand at 1,248-62 ft., was shot and pumped 5 bbl. of oil in 24 hours.

E. H. Moore, Inc., and others No. 1 Guilliam, SW NW NE Section 18-18-2e, northeast edge well in the Ramsey pool, Payne County, was dry and abandoned at 4,911 ft., total depth.

New operations: McAdams No. 1 Thomas, SW SE NW Section 29-15-11, Okmulgee County, location.

In Muskogee County, Howard & Howard No. 2-A Jefferson, SW NW SW NW Section 33-15-15, was a location.

Carter-Love Counties

Magnolia Petroleum Co. No. 1 Nicholas, NE SE SW Section 9-4s-3w, Healdton field, Carter County, an old well deepened from 1,097 ft. to sands at 1,125-30 ft. and 1,149-62 ft., total depth 1,165 ft., pumped 7 bbl. of oil and 50 bbl. of water daily.

Jones Brothers No. 7 Carter J, NW SW NW NE Section 16-4s-3w, found sand at 1,318-26 ft., lime 1,379 ft., was bottomed at 1,389 ft., and pumped 8 bbl. of oil and 5 bbl. of water daily.

In Love County, Sinclair Prairie Oil Co. No. 2 Stockton, NE NE SW Section 26-6s-2w, Stockton area, had Pontotoc series at 1,025 ft., Hoxbar 2,450 ft., Deese formation 4,212 ft., was bottomed at 6,888 ft., perforated casing, salt water intruded and it was abandoned.

Southwestern Oklahoma

West Oak Gas Co. No. 1 Coogan and others, C SE NE Section 3-9-25w, Erick area, Beckham County, had dolomite pay at 3,350-3,537 ft., total depth, and produced 5,000,000 cu. ft. of gas daily.

Northern Drilling Co. No. 1 Van Vector, SE SE NE Section 25-8-22w, had Hoxbar sands and broken sands and shale at 980-1,038 ft., total depth, produced 5,000,000 cu. ft. of gas and was the second Beckham County completion of the week.

Wichita Oils, Inc., No. 12 Palmer (Noble), SE NE NE Section 28-2n-10w, Lawton area, Comanche County, had sand at 441-463 ft., total depth 468 ft. in shale, and pumped 4 bbl. of oil daily.

Hal Vaughn No. 2 Stoker, SE SW SW Section 11-1n-20w, Altus field, Jackson County, found granite wash at 1,363-91 ft., total depth 1,393 ft., flowed 275 bbl. of oil in the first 24 hours, and was completed, flowing 96 bbl. oil daily average.

O. P. Burnham No. 2 Sumner, NW NE SE Section 6-1s-19w, Tipton pool, Jackson County, an old well deepened from 2,552 ft. to 2,560 ft., pumped 100 bbl. of oil daily, recompleted. Production was increased from 40 bbl. daily.

Kerbow & Brittain No. 1 Danona, NW NE NW Section 9-1s-19w, Tipton pool, had granite wash series at 2,564 ft., was bottomed at 2,603 ft. in shale, and pumped 128 bbl. of oil daily.

Carter & Ring No. 16 Arm, SE SE NE Section 26-1s-5w, Velma pool, Stephens County, pumped 6 bbl. of oil daily from Pontotoc sand at 425-450 ft., total depth 465 ft.

George L. Pace and others No. 5-C Houston C, CWL NW SW Section 2-2s-8w, Empire field, Stephens County, was dry and abandoned at 2,463 ft., total depth.

Same operators' No. 12-B Houston, SE NE SW Section 2-2s-8w, Empire field, found Hoxbar sand at 995-1,023 ft., sandy shale at 963-995 ft., was bottomed at 1,608 ft., plugged back to 975 ft., drilled out to 1,054 ft., and was completed for 1,000,000 cu. ft. of gas daily.

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Southwest Texas District

By F. L. SINGLETON

Discover Pools in Refugio and San Patricio Counties

CORPUS CHRISTI, Tex., June 5.—With two new pools opened in Southwest Texas district in the past week, operators shifted their attention to Refugio and San Patricio counties where production tests were being made on promising wildcats.

Two miles north of the Clara Driscoll field, Nueces County, preparations were being made to start an active drilling campaign around Texas Conservative Oil Co. No. 1 Minnie Bock, which opened production from the Miocene sand when it flowed 26 bbl. of oil in 5 hours, flowing through a ⅛-in. choke under a tubing pressure of 1,250 lb. and casing pressure 1,500 lb. The hole is bottomed at 4,051 ft. and the well is producing through perforated casing at 3,806-14 ft. The same company is skidding the rig 660 ft. northeast for No. 1 Bruno Bock, while a west offset is being started by Buchanan Production Co. and others for No. 2 Gandy in Section 55, Joaquin Lopez de Herrera Survey. In view of the multiple sand fields in that vicinity, prospects of developing production from other horizons are very favorable. The area is divided into many ownerships with Texas Co., Phillips Petroleum Co., Sun Oil Co., Wellington Oil Co., and Buchanan Production Co. holding most of the acreage.

Production test on two outpost wells in the Clara Driscoll field were disappointing. Ralph Ogden No. 1 Miller, southwest of production, perforated casing at 5,795-5,810 ft., and tested 3,250 ft. of salt water. Texas Co. No. 1 Fline, northeast of production, reperforated casing at 5,260-68 ft. and also showed salt water.

In Jim Wells County, Bridwell Oil Co. No. 1 W. M. Smith, discovery well of the Ben Bolt field, flowed 145 bbl. of 41.3-gravity oil per day through ⅛-in. choke under a tubing pressure of 875 lb. and casing pressure 1,000 lb. The hole is bottomed at 5,251 ft., and the well was completed through perforated casing at 5,242½-46½ ft. The well is located in the La Trinidad Survey. The company is rigging up No. 10 M. Beasley, 660 ft. due north, while an east offset is being started by Earl Calloway and others for No. 1 Smith.

South Alford Extended

The newly opened South Alfred field, Jim Wells County, was extended northeasterly by Ike Howeth No. 1 Robert Adams, which flowed 181 bbl. in 28 hours through ⅛-in. choke. Seven-inch casing was cemented on oil sand cored at 4,681-89 ft., total depth. Southeast of the discovery well, Lonnie Glasscock No. 1 Robert Adams was dry and abandoned at 5,774 ft.

In the Camada field, Jim Wells County, H. H. Howell No. 1 W. K. Hoffman, 2,000 ft. northwest of the discovery well, was preparing to take side-wall cores at 6,860-75 ft. where an electrical survey showed a possible oil sand. Casing will be cemented if the cores show favorable indications, otherwise the hole will be abandoned, as no showings were found in the discovery horizon at 5,625-40 ft.

In the recently discovered Clark field, Frank J. Gravis No. 1 Richardson flowed 120 bbl. per day through ⅛-in. choke. Sand was cored at 5,321-31 ft., and 5½-in. casing was cemented at 5,319 ft. This is the second producer for the field, which is 2½ miles southeast of the South Alice field.

Wildcat interest in the county is now centered on W. R. Quinn and others No. 1 Pundt, north of Orange Grove, in the T. C. Wright Survey. The hole is bottomed at 4,770 ft. and casing is being cemented after an electrical survey was run to bottom. On a 4-minute drill-stem test at 4,731-70 ft. the well tested 950 lb. of pressure and 41 ft. of gas and distillate-cut drilling mud. Side-wall cores at 3,638-4,091 ft. showed sand with a slight oil odor, sand and shale with a slight oil odor at 4,733-40 ft. and sand with an oil odor at 4,740-44 ft.

Six miles east of Mathis, San Patricio County, Seaboard Oil Co. cemented casing and is preparing to make a production test at No. 1 Persons. The hole was drilled to 6,348 ft. and 5½-in. casing cemented at 5,675 ft. Side-wall cores at 5,264 ft. showed shaly sand with no oil; sand with a slight oil odor was logged at 5,268-69 ft. On a recent drill-stem test at 5,606-16 ft., the well tested 60 ft. of oil and mud and 42 lb. of pressure while a second test at 5,602-26 ft. recovered 360 ft. of oily brackish water and 42 lb. of pressure.

In the same county, on the extreme west side of the East White Point field, Houston Oil Co. No. 4 Baldwin showed promise of production in a shallow sand by testing 720 ft. of oil and 350 lb. of working pressure on a drill-stem test at 4,932-40 ft. The sand was passed up and the hole deepened to the 5,600-ft. pay. The shallow sand was also cored in a recent well drilled by the Shell Oil Co., Inc., on the Kirk lease. At the end of the week five wells had cored the 5,600-ft. sand and were being completed.

Drilling Declines in Townsite

In the Aransas Pass townsite area of the McCampbell field, Aransas and San Patricio counties, Kepley Production Co. cored the 7,100-ft. sand in No. 1 Drilling District No. 58, and casing was being cemented for completion. The well is about 1,500 ft. east of production in Lot 3, Block 274, and about ¼ mile from the center of the townsite. At the present time there are only 11 wells drilling in the field, compared to 24 four weeks ago.

Production from the 5,400-ft. sand in the Richard King field, Nueces County, was extended approximately 1 mile northeast as Southern Minerals Corp. recompleted No. 16 King. The well was originally completed in the 6,100-ft. sand, but was plugged back to 5,620 ft. and casing was perforated at 5,387-99 ft. At the close of the week the crew was cleaning out through ⅛-in. choke, showing 95 per cent oil and the balance wash water under 250 lb. of pressure.

Approximately 2½ miles northeast of the Tomoconnor field, Refugio County, Quintana Petroleum Corp. is testing No. 10 Williams which looms as the discovery well of a new field. Details of the well have not been released by the owner and the following information is subject to correction: Hole bottomed at 6,220 ft. with sand showing oil logged at 5,870-80 ft. A 10-minute drill-stem test showed 150 lb. of pressure and 600 ft. of 39-gravity oil. Another test just below the above horizon is reported to have shown salt water. Casing was cemented and perforated at approximately 5,870-80 ft, and the well flowed pipe line oil for a short time, and then salt water appeared. The well is about 4 miles east of Vidauri, in the center of proration unit No. 134.

Two miles northeast of the Barbacoas field, Starr County, Magnolia Petroleum Co. No. 1 Garcia is testing through perforated casing at 6,228-40 ft. Two previous tests at 6,465-6,550 ft. and 6,285-6,320 ft. showed mud, with no working pressure.

In Duval County, Transwestern Oil Co. opened production from the Cole sand in the S. R. C. field with the completion of No. 21 Duval County Ranch Co. Oil sand was cored at 1,045-59 ft., total depth, and the well pumped 26 bbl. of oil in 9 hours. Northeast of the Benavides field, Parr Drilling Co. cemented surface casing in No. 1 H. G. Villareal, a Pettus sand test. One mile east of the Fitzsimmons field, R. L. Wheelock is rigging up No. 1 Serna in the southeast quarter of Section 290.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

(24-hour production)

Aransas-San Patricio Counties

McCampbell field: Rantex Oil Co. No. 1 Houghton & Wheeler, perforated casing 7,125-31 ft., 200 bbl., ⅛-in. choke. Bay Tex Oil Corp. No. 2 Conn & Brown, perforated casing 7,135-41 ft., 80 bbl., ⅛-in. choke.

Caldwell County

Branyon field: Martel Petroleum Co. No. 1-C Young, 2,181 ft., 132 bbl., pumping.

Calhoun County

Heyser field: Gulf Oil Corp. No. 4 Williams, sand 5,473-84 ft., 126 bbl. in 17½ hours, ⅛-in. choke.

Duval County

Benavides field: Argo Oil Corp. No. 1 Benavides, 5,604 ft., abandoned. Hiawatha Oil & Gas Co. No. 13 Southland Life Insurance Co., 1,457 ft., 144 bbl., 5/32-in. choke. Cedro Hill field: Magnolia Petroleum Co. No. 8 Duval County Ranch Co., sand 1,462-66 ft., 40 bbl., pumping. Longhorn field: Longhorn Drilling Co. No. 5 Miller, 4,909 ft., 129 bbl., 5/32-in. choke. Hiawatha Oil & Gas Co. No. 8 Miller, perforated casing 4,018-19 ft., 150 bbl., 5/32-in. choke. Piedra De Lumbre field: Humble Oil & Refining Co. No. 4-E Duval County Ranch Co., 2,120 ft., 63 bbl., ⅜-in. choke. Magnolia Petroleum Co. No. 25 Duval County Ranch Co., sand 2,118-29 ft., 35 bbl., ⅜-in. choke.

Hidalgo County

Samfordyce field: T. C. C. Oil Co. No. 1 Chapa, perforated casing 3,979½-81½ ft., 25 bbl. distillate, ¼-in. choke.

Jim Hogg-Brooks Counties

Kelsey field: Humble Oil & Refining Co. No. 10 McGill Brothers, 4,734 ft., 81 bbl., 9/64-in. choke.

Jim Wells County

South Alice field: Tom Graham No. 1 Zappe, perforated casing 4,637-40 ft., 4 bbl. distillate, ⅛-in. choke. Henshaw Brothers No. 2 Inglott, perforated casing 5,283-5,303 ft., 35 bbl. distillate, ⅛-in. choke. W. D. Walton No. 1 Bankers Mortgage, perforated casing 5,223½-46 ft., 82 bbl., 3/32-in. choke.

McMullen County

Campana field: J. V. Adams and others No. 1-B Selman, 3,102 ft., dry and abandoned.

Nueces County

Clara Driscoll field: Phillips Petroleum Co. No. 3 McCright, perforated casing 5,860-63 ft., 18 bbl. distillate, 5/32-in. choke. Saxet field: Richardson Petroleum Co. No. 1 Weil, 5,228 ft., dry and abandoned. Sinclair Prairie Oil Co. No. 4-X Isensee, perforated casing 4,726-30 ft., 70 bbl., ¼-in. choke.

Refugio County

La Rosa field: Coronado Corp. No. 8 Spaulding, perforated casing 5,897-5,900 ft., 161 bbl., ⅛-in. choke. Coronado Corp. No. 2 Yarrow, perforated casing 6,333-36 ft., 161 bbl., ⅛-in. choke. Hewitt & Dougherty No. 1 Posert, perforated casing 6,248-80 ft., 36 bbl. distillate, ¼-in. choke.

San Patricio County

East White Point field: Humble Oil & Refining Co. No. 1-B Speer, perforated casing 5,605-32 ft., 148 bbl., ⅛-in. choke. Nueces Royalty Co. No. 1 Roper, perforated casing 5,628-43 ft., 128 bbls., ⅛-in. choke. Plymouth Oil Co. No. 4 Ficke, perforated casing 5,637-43 ft., 120 bbl., 7/64-in. choke. Plymouth Oil Co. No. 2 Solar-Countiss, perforated casing 5,665-73 ft., 120 bbl., 7/64-in. choke. Plymouth field: Plymouth Oil Co. No.

(Continued on Page 91)

Shackelford County Springs Surprise: A 5,000-bbl. Well

By D. H. STORMONT

FORT WORTH, Tex., June 5.—Discovery of an oil pool in Schleicher County, in the general area of several already completed gas-distillate wells, led the development of an active week in the West Texas area. An estimated flow of from 75 to 100 bbl. of oil in 2¼ hours was reported for the Lone Star Gas Co. No. 1 Humble-Page, on the Page ranch, 10 miles west of Eldorado, on which two gas wells are producing. The well is a ⅞-mile southeast outpost to Cooper Gas Co. No. 2 Bert Page, larger of the two gas wells. Oil was found at 5,727-47 ft., total depth, in the lower Pennsylvanian, either Strawn or Bend sand. The well was opened to flow into the pits after being shut in for 3 days, and on its 2½-hour flow, before dying, an estimated 75 to 100 bbl. of oil was produced. The well was cleaning itself as the week closed and operators are preparing to cement 5-inch casing at 5,724 ft. for a further test of the horizon. Location of No. 1 Humble-Page is 660 ft. from the north and 1,980 ft. from the east line of Section 30, Block L., G.H.&S.A. Survey.

Several wildcat tests in Ector County attracted attention during the week as possible extensions were seen on two sides of the North Cowden field. Sloan & Zook No. 1 J. L. Johnson, Section 34, Block 43, T.&P. Survey, 3 miles south of the North Cowden pool and 1½ miles northwest of the Johnson pool discovery well, was drilling below 3,160 ft. in anhydrite. Gulf Oil Corp. No. 1 Holt, Section 1, Block A., P.S.L. Survey, ½ mile west of production in the North Cowden area, was drilling below 5,048 ft. and making about 3 gal. of oil per hour from upper horizons. Barnes, Conkling & White No. 1 E. R. Thomas Estate, Section 28, Block 45, T.&P. Survey, wildcat in western Ector County, which has been extremely high structurally, was drilling below 3,914 ft. in lime. Sinclair Prairie Oil Co. No. 5 Hugh Corrigan, on the east side of the North Cowden pool has become the record producer in the pool, flowing 4,889 bbl. of oil in 24 hours. Gas amounted to 2,459,509 cu. ft. daily, gave the well a ratio of 502 to 1. Total depth is 4,398 ft. and it is located in the south half of Section 25, Block 43, T.&P. Survey.

An extension test for the northwest side of Winkler County's Keystone pool has been staked by R. E Harding Jr., 880 ft. west of the ¾-mile north extension, completed by him last month. The test is in the Gulf-Jenkins lands, and in Section 13, Block 77, P.S.L. Survey.

3 ¾-mile northwest extension to the Dunes pool of Crane County was made by Standard Oil Co. of Texas No. 1 Adams, Section 12, Block 24-B, P.S.L. Survey. A flow of 85 bbl. of oil per day through casing after the shot was reported. The hole is bottomed at 3,353 ft. with oil sand reported from 3,208 ft. to the total depth. The well is showing some salt water, and testing will continue.

In Pecos County, official gage has been completed on the new Ordovician discovery in the Masterson pool. Anderson-Prichard Oil Corp. and Monte Warner No. 1 Masterson gaged 183 bbl. of oil in 24 hours from the Ellenburger lime drilled from 4,545-90 ft. No locations have been staked in the area and the development plans for the tract has not been made known.

In Ward County Gulf Oil Corp. staked location for a contracted 7,500-ft. well on the Wristen ranch, western part of Section 18, Block 5, H.&T.C. Survey. Ordovician production is being sought underlying the Shipley pool structure, which was discovered last year by the Shipley Oil Co.

Northern Basin Area

Two Yoakum County wildcats attracted attention, one being a possible extension to the one-well Bohago area of northern Yoakum County. This test is W. A. Hudson and Million Drilling Co. No. 1 J. D. Webb, wildcat, 2 miles northeast of the discovery well in the Bohago area. The crew is drilling ahead below 4,550 ft. and the well is reported slightly lower structurally than the discovery well. Shell Oil Co. No. 1 Waples-Platter, wildcat, 2 miles northeast of the Bennett pool, pumped 114 bbl. of fluid in 12 hours, about 30 per cent being water. Well is still bottomed at 5,312 ft. and operators have abandoned plans to plug back further in attempting to shut off the water.

In Gaines County, Humble Oil & Refining Co. No. 1 W. T. Caswell, Section 10, Block 24-A, P.S.L. Survey, wildcat test in the southern part of the county and 5 miles northwest of the Landreth Production Corp. No. 1 Kirk, discovery well, reported soft lime and bleeding cores with slight porosity from 4,640-80 ft. The crew is coring ahead.

Cochran County's prospective producer and pool-opener, T. G. Shaw No. 1 Dean, League 94, has been acidized with 1,000 gal. at a total depth of 5,005 ft. Operators are swabbing and testing.

Crockett County's deep well being drilled by Humble Oil & Refining Co. as its No. 1 Ozona-Barnhart Trap Co., Section 4, Block M.N., G.C.&S.F. Survey, was reported to have taken a drill-stem test as the week closed, the results not being made known. The company is drilling the well as a "mystery." Outside observers credited it with topping the Simpson of Ordovician age at about 8,626 ft. Test was reported to be at bottom of the hole which is 8,719 ft., in an unreported formation.

WEST CENTRAL TEXAS

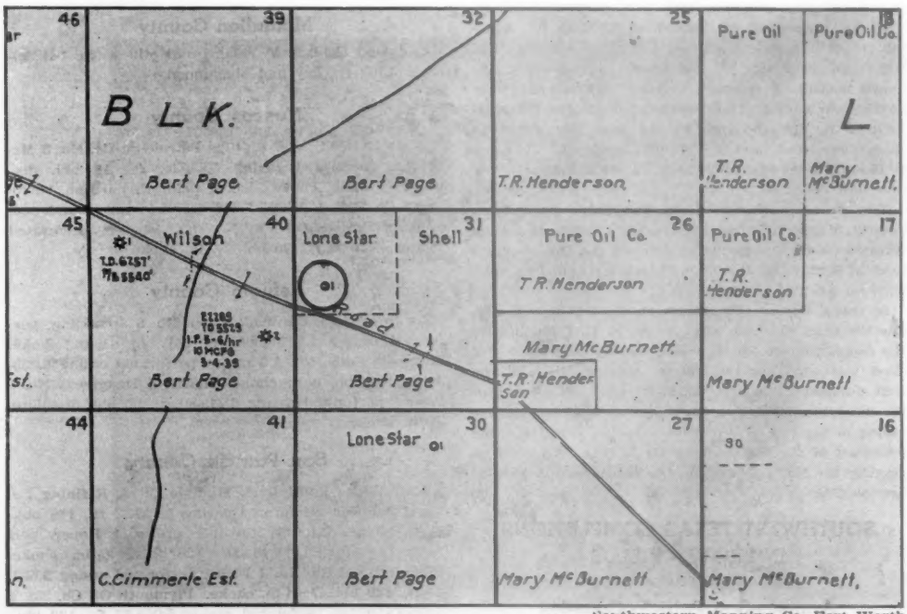
Indicated completion of a 5,000-bbl. well in Shackelford County, the largest in its 25-year producing history, and the possible completion of large producers in Jones County's Griffin pool and Young County's McLester pool led the development in that area during the week.

The record Shackelford producer, drilled by Ben J. Fortson and Sam W. Polk, Fort Worth independent operators, has been estimated from 3,500 to 5,000 bbl. of oil daily as a result of its early performances. A solid stream of oil and high gas pressure blew the tubing out of the hole as operators were attempting to establish a gage. On a 1-hour gage the well put 250 bbl. of oil into storage tanks. It is located on the west side of the Ivy pool, in the McCown lands of Section 158, production being from the Palo Pinto horizon drilled from 3,143 to 3,190 ft.

Two producers for the Griffin pool of Jones County were reported. Completions were by Armer & Armer and Garrett M. Smith, who, jointly, completed their No. 1 Cox for 479 bbl. of oil in 4 hours and 23 minutes. Pay was the Palo Pinto lime horizon of the pool encountered from 3,244-77 ft., total depth. The operators also completed their No. 3 Cox, northeast offset to the No. 1, for 413 bbl. of oil in 2 hours and 24 minutes, pay being encountered from 3,237-60 ft. The Texas Railroad Commission has announced a raise in allowable for the Griffin pool, its per-well allowable having been cut drastically several weeks ago. The allowable was raised from 45 bbl. per well to 75 bbl. per well, retroactive to May 10.

One of the largest wells ever completed in Young County is the Tex-Tor Oil Co. and McLester No. 1-C J. F. Knight, Knight subdivision, Abstract 2204, in the McLester pool, 3 miles southwest of Graham. The test flowed 583 bbl. of oil in 5 hours through open 2-inch tubing, to rate a daily potential of 2,800 bbl. The well is producing from two horizons, 3,355-58 ft. and 3,739-4,344 ft., total depth. A production of 4,000,000 cu. ft. of gas was reported, and the shut-in pressure on casing was 1,100 lb. and on tubing 1,020 lb.

Coleman County's record pool opener completed last week by Anzac Oil Co. on the Morris ranch has been given a Railroad Commission gage of 228 bbl. of oil in 2 hours and 25 minutes to rate a daily potential of 2,250 bbl. Production is from 2,174-90 ft. and is on the upper Strawn formation. The company staked No. 5-C Morris as a northwest offset to the No. 4-C Morris, discovery. The new pool is 18 miles north of Coleman,



Southwestern Mapping Co, Fort Worth

Schleicher County was given a new oil pool when Lone Star Gas Co. No. 1 Humble-Page, Section 30, Block L, G.H.&S.A. Survey, flowed 70 to 100 bbl. in 2½ hours on initial tests

and the discovery well is in the northwest part of the David Breeding Survey 728.

Eastland County's gas discovery of 2 weeks ago has been completed for a gage of 2,300,000 cu. ft. daily following a 1,000-qt. shot of nitroglycerin in the pay section from 3,890-3,914 ft. Location is in the G. P. Mitcham farm of Section 476, S.P. Survey.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour gage)

Brown County

Ed. Selvidge No. 5-A fee, dry and abandoned at 1,257 ft.

Callahan County

Fainer No. 1 Guyton, dry and abandoned at 2,010 ft. Henson No. 1 Wilson, dry and abandoned at 517 ft.

Coleman County

Anzac Oil Co. No. 4-C Morris, 2,174-91 ft., 2,250 bbl. Western Well Servicing Co. No. 1 Hickman, dry and abandoned at 1,242 ft.

Eastland County

Groce No. 1 Cauble, dry and abandoned at 1,212 ft. Lone Star Gas Co. No. 2 Mitcham, 3,617-3,914 ft., 2,800,000 cu. ft. of gas.

Jones County

G. Callihan Co. No. 1 Prewitt, dry and abandoned at 2,672 ft. Consolidated Oil No. 4 McCaskey, 3,280-87 ft., 133 bbl. B. Fields No. 2-B Humphrey, 3,269-74 ft., 386 bbl. Gregg Oil Co. No. 1 Osment, dry and abandoned at 2,667 ft. Humble Oil & Refining Co. No. 1 Sears Estate, dry and abandoned at 3,050 ft. Iron Mountain Oil-Humble Oil No. 1 Cockrell, dry and abandoned at 3,314 ft. Iron Mountain Oil-Humble Oil No. 1 O. Davis, 3,236-40 ft., 457 bbl. Lewis Production No. 3 Munzlier, 3,225-79 ft., 5,381 bbl. Snoddy Oil No. 1 Stephens, dry and abandoned at 2,301 ft. Ungren & Frazier No. 2 Jennings, dry and abandoned at 3,311 ft.

Palo Pinto County

Hickok & Reynolds No. 1 Johnson, dry and abandoned at 2,378 ft. Palo Pinto Oil & Gas No. 26 Strawn, dry and abandoned at 3,845 ft. Wilson No. 1 Watson, abandoned location.

Shackelford County

Beams Drilling & Production Co. No. 1 Jackson, dry and abandoned at 1,318 ft.

Stephens County

Shertzer Bros. No. 7 Stuart, 1,668-85 ft., 20 bbl.

PANHANDLE FIELD COMPLETIONS

(24-hour gage)

Gray County

Cities Service No. 18 I. B. Hughey B, 3,119-78 ft., 160 bbl. King Oil Co. No. 6 F. L. Allen, 3,225-70 ft., 325 bbl. Magnolia Petroleum Co. No. 28 fee No. 227, 2,824-59 ft., 119 bbl.

Moore County

Shamrock Oil & Gas Co. No. 1 J. B. Schlee, 2,870-3,250 ft., 28,239,000 cu. ft. gas.

WEST TEXAS COMPLETIONS

(24-hour gages)

Andrews County

Anderson-Prichard Oil Corp. No. 5 Cowden, 4,172-4,320 ft., 1,630 bbl. Humble Oil & Refining No. 62 J. S. Means, 4,500-10 ft., 1,630 bbl. Osage Drilling Co. No. 3 University-Phillips, 4,175-4,246 ft., 1,388 bbl.

Cochran County

Devonian Oil Co. No. 2-B-19 T. B. Duggan, 5,034-77 ft., 341 bbl.

Crockett County

Lutex Oil No. 3-17 University, 1,427-1,520 ft., 23 bbl.

Ector County

Broderick & Calvert No. 7-C E. F. Cowden, 3,989-4,175 ft., 911 bbl. Broderick & Calvert No. 5 O. B. Holt, 4,132-4,386 ft., 1,526 bbl. Cities Service Oil Co. No. 1-B University, 3,426-3,645 ft., 1,225 bbl. Gulf Oil Corp. No. 189 Goldsmith, 4,143-86 ft., 2,352 bbl. Gulf Oil Corp. No. 191 Goldsmith, 4,129-80 ft., 527 bbl. Gulf Oil Corp. No. 193 Goldsmith, 4,129-89 ft., 528 bbl. Llano Oil No. 1 O. B. Holt, 4,107-4,232 ft., 345 bbl. M. B. K. Drilling Co. No. 1-B Gist, 4,211-4,314 ft., 1,495 bbl. Phillips and Pure No. 61 Cowden, 4,048-4,155 ft., 1,304 bbl. Shell Oil Co., Inc., No. 4-B Witcher, 4,030-4,230 ft., 630 bbl. Sinclair Prairie Oil Co. No. 2 Fay Holt, 4,194-4,300 ft., 381 bbl. Stanolind Oil & Gas Co. No. 14 Roberts, 4,200-4,440 ft., 891 bbl. Sunray Oil Co. No. 5 Johnson, 4,194-4,281 ft., 624 bbl.

Gaines County

M. B. K. Drilling Co. No. 3 Wasson, 4,902-88 ft., 690 bbls. M. B. K. Drilling Co. No. 4 Wasson, 4,914-90 ft., 1,154 bbl. Osage Drilling Co. No. 1 E. H. Jones, dry and abandoned at 5,146 ft.

Howard County

Dick Graham No. 1 Pete Johnson, location temporarily abandoned.

Loving County

Argo Oil No. 1-A T.&P., 3,941-4,002 ft., 65 bbl. (old well drilled deeper).

Pecos County

Lee Petroleum Co. No. 7-A University, 947-1,636 ft., 10 bbl. (old well drilled deeper). Pecos State Oil Co. No. 7 State, 2,059-81 ft., 23 bbl. W. H. Street No. 9 Shearer-Texas, 1,437-73 ft., 650 bbl. Ward Pecos Petroleum Co. No. 8-A Pecos Valley, 1,543-1,600 ft., 10 bbl. Ward Pecos Petroleum Co. No. 1-D Pecos Valley, 1,533-1,630 ft., 222 bbl. William Guber No. 1 M. S. Saenger, location abandoned. Waid & Holderman No. 2 J. W. Potts, location temporarily abandoned.

Schleicher County

Lone Star Gas Co. No. 2 Bert Page, dry and abandoned at 5,798 ft.

Scurry County

Coffield & Guthrie No. 1-A First National Bank of Snyder, 2,220-2,412 ft., 120 bbl.

Stonewall County

Forest Development Co. No. 1 Boyd, 4,690-4,760 ft., 187 bbl.

Upton County

Continental Oil Co. No. 23 Burleson, 2,095-2,187 ft., 40 bbl. (old well drilled deeper). Continental Oil Co. No. 26 Burleson, 2,128-2,260 ft., 21 bbl. (old well drilled deeper). Continental Oil Co. No. 8 Sanger, abandoned (off production). Gulf Oil Corp. No. 194 McElroy, 2,800-3,016 ft., 121 bbl. Parker Drilling Co. No. 2 Richard King-Texas Co., dry and abandoned at 2,369 ft. Reese-Pittman & Rankin No. 2 Cordova-Union, 2,168-80 ft., 468 bbl.

Ward County

Frank Downey No. 2 Russ Avery, dry and abandoned at 2,118 ft. Robert E. Mitchell No. 2 Johnson, location abandoned. Ward Pecos Petroleum Co. No. 1 Texas Cotton Ind., 1,860-66 ft., 360 bbl. Sahara Oil No. 5 Dorr, 2,051-68 ft., 53 bbl.

Winkler County

Gulf Oil Corp. No. 232 Walton, 3,185-3,270 ft., 680 bbl.

Yoakum County

Aloco Oil Co. No. 1 J. P. Nystel, 4,980-5,150 ft., 562 bbl. Gulf Oil Corp. No. 2 C. A. Elliott, 5,006-5,212 ft., 258 bbl. Shell Oil Co., Inc., No. 1-E Baumgart, 4,850-5,140 ft., 1,302 bbl. Fred M. Allison No. 1 J. N. Eden, 4,907-5,143 ft., 887 bbl. (old well drilled deeper). Aloco Oil Co. No. 6 Willard, 5,035-5,154 ft., 199 bbl. Humble Oil & Refining Co. No. 12-X Wooten, 4,920-5,100 ft., 960 bbl. Shell Oil Co., Inc., No. 2 W. S. Hodges, 5,030-5,237 ft., 971 bbl. Toddie L. Wynne, Trustee No. 4 C. A. Thomas, 4,915-5,150 ft., 682 bbl.

Michigan Fields

(Continued from Page 79)

naturally. It was completed at 1,188 ft. Clapsaddle & Harris also completed No. 4 Fred Been, SW NE NW Section 24, getting production of 200 bbl. a day after acid treatment, total depth 1,182 ft. Mathews & Hosier abandoned No. 1 C. W. Crandall, N½ SW NW Section 33, dry at 1,257 ft.

Pine Grove Township (1s-13w)—K. & F. Development Co. No. 1 Simmons, SE NW SE Section 3, was a dry hole and abandoned at 1,535 ft.

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WEST

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North and East Texas

By
D. H. STORMONT

Montague Ellenburger Test Dry; Burns Pool Is Extended

WICHITA FALLS, Tex., June 5.—Abandonment of an effort to find production in Montague County from the Ordovician level was seen in Rogers & Rogers No. 1 Benton & Woods in the Nocona pool. The well was drilled through the regular Strawn pay and at a total depth of 5,489 ft., in dry Ellenburger lime, the operators announced plans to run casing to 4,650 ft. for completion from the regular pool pay. The test is a north offset to Rogers & Rogers No. 1 Burnett, in the Jacob Lenow Survey, Abstract 433, which opened the Nocona pool several months ago. Although drilled deeper, the test had topped the lower Strawn sand showing oil at 4,650 ft. and drilled sand, showing oil, from that depth to 4,664 ft. A drill-stem test of the section showed 650 ft. of oil in 30 minutes and the well is expected to make a better producer than the discovery well which gaged 576 bbl. of oil in 24 hours. The pool is 1 mile west of the town of Nocona. One and one-half miles northeast of Nocona and about 2 miles northeast of the pool proper, Bridwell Oil Co. No. 1 Reynolds, Block 9, T.T. Survey, cored dry sand and shale from 4,611 ft. to 4,649 ft. and was drilling ahead below 4,685 ft.

A 1¾-mile northwest extension was seen as the week closed for the recently discovered Burns pool in Clay County. The possible extension test is Burns No. 1 Scaling, southeast corner of Block 6, H.&T.B. Survey, which was running casing for a test of saturation logged at 4,439-64 ft. An electrical survey of the hole showed rather fine porosity, however, it is believed that the test will make a producer. South offset to the discovery well in the Burns pool, Shell Oil Co. No. 1 Davis, Block 93, J. H. Belcher Survey, bailed to the bottom of the hole at 5,100 ft. and reported only a small amount of free oil. Casing has been cemented at 4,923 ft., some 500 ft. below the discovery horizon from which it tested dry. It is undecided whether operators will deepen further or abandon. Five miles southwest of Blue Grove, also in Clay County, Burns is drilling below 3,912 ft. in another wildcat. This is his No. 1 C. L. Wynn, a contracted 5,100-ft. test located in Lot 34, H. Williams Survey, Abstract 704, approximately 2 miles west of the town of Joy.

Archer County

Archer County's new Caddo lime discovery well, British American Oil Producing Co. No. 1 T. B. Wilson, Section 12, Block 3, H.&T.C. Survey, 3 miles south of Mankins, will qualify as one of the largest wells in the county. Flowing through 60 perforations in the 7-in. casing from 5,660 ft. to 5,680 ft., the well gaged 830 bbl. of oil in 15 hours, or at the rate of about 1,332 bbl. daily. The well made an average of 55 bbl. per hour with the last hour's flow gaging 56 bbl. The name Mankins Deep pool has been given the area which is the first Caddo lime production north of Young County.

Cooke County

In the Walnut Bend field of northeastern Cooke County, Sinclair Prairie Oil Co. No. 10 Best, farthest southwest test in the pool, was drilling ahead below 5,300 ft., in lime, seeking the Ellenburger. The Simpson, upper member of the Ordovician, was topped at 5,230 ft. In the Voth pool in the central part of the county, and some 20 miles southwest, production is obtained from the Ellenburger at a depth of 1,750 ft.

Baylor County

A new wildcat test has been staked in the Cope Canyon lime area of eastern Baylor County by the Consolidated Oil Co. The test is the No. 1 F. C. Green Heirs, 3,300-ft. rotary test located in the northeastern part of Section 230, T.&N.O. Survey. The wildcat is 3¼ miles southeast of the discovery well in the area, producing from the Canyon lime.

Archer County was given a shallow wildcat when Ralph C. Hart, Fort Worth independent operator, staked his No. 1 J. D. Carpenter, Lot 38, Block 4, Clark & Plumb subdivision, 6 miles east of Archer City. Production will be sought from around 290 ft. in the Thomas sand.

NORTH TEXAS COMPLETIONS

Archer County

P. C. Burns No. 3 N. I. Andrews, 1,000-1,101 ft., 5 bbls. C. A. Johnson No. 1 Mrs. Carrie Threet, 1,102 ft., dry. Hammon, Hanlon & Buchanan, Inc., No. 2 W. P. Ferguson, 3,782-3,870 ft., 720 bbl. Phillips Petroleum Co. No. 1 J. B. Miller, 4,073 ft., junked. L. Sikes No. 1 Mrs. M. M. Martin, 5,790 ft., dry. C. H. Staley and others No. 1 Anna Mangold A, 3,777-3,868 ft., 544 bbl. W. D. Taylor No. 1 Mrs. M. A. DeMoss, 1,033 ft., dry. W. C. Young, Jr., No. 1 C. L. Abercrombie, 1,401 ft., dry.

Clay County

G. W. Cooper and others No. 1 T. P. Duncan, 1,206-14 ft., 182 bbl. Perkins & Cullum No. 3 C. T. Taylor, 281 ft., dry. C. F. Schram and others No. 4 Dolph Summers, 163-68 ft., 2 bbl. Sussex Oil Corp. No. 1 Mrs. E. A. Glasgow, 1,404 ft., dry.

Cooke County

Pois & Schulz No. 1 T. H. Sears, 1,108 ft., dry. Sinclair Oil & Gas Co. No. 9 J. M. Best, 4,943-84 ft., 1,356 bbl. M. Staniforth No. 1 B. Voth, 1,735 ft., junked. B. F. Thompson No. 3 Joe Weisman, 899-910 ft., 50 bbl. Sam Vogel No. 5 G. T. Andress, 838-84 ft., 5 bbl. Whitfield and others No. 7 B. Voth. 1,741-58 ft., 432 bbl.

Jack County

Grace & Barrow No. 4 J. M. Bloodworth, 332 ft., dry.

Montague County

W. H. Yeargin No. 5 E. J. Bouldin Crow, 759-810 ft., 10 bbl.

Wichita County

G. G. Browning No. 5 Casper Guyer, 320 ft., dry. Magnolia Petroleum Co. No. 144 Hugh Reilly, 1,344-73 ft., 321 bbl. Westbrook Oil Corp. No. 1 L. F. Ramming, 1,249 ft., dry. D. H. Bolin No. 4 D. R. Preston, 3,925-4,015 ft., 1,200 bbl. Buffalo Oil Co. No. 5 W. P. Ferguson, 3,695-3,807 ft., 1,090 bbl. Consolidated Oil Co. No. 2 Barnes-Griffin, 3,957-4,003 ft., 1,320 bbl. Golding & Cochran No. 3 Mrs. G. Jennings, 1,797-1,832 ft., 10 bbl. Hamilton-Worsham No. 4 W. F. Hamilton, 3,759-76 ft., 1,080 bbl. King Oil Co. No. 4 Sue Mitchell, 4,122 ft., dry. R. S. Rathke No. 1 E. H. Rathke, 343-50 ft., 2 bbl. Venmex Oil Co. No. 3-A State Lands, 3,673-3,795 ft., 1,080 bbl.

Young County

W. B. Hamilton No. 1 H. Hennig, 1,201 ft., dry. Homestead Oil Co. No. 1 G. C. Thedford, 3,744 ft., dry. Nehls No. 1 W. F. Grubbs, abandoned location. Pitzer & West and others No. 1 M. K. Graham, 3,862-85 ft., 5,265 bbl. Reimers Oil Corp. No. 1 S. W. Haggard, 668-738 ft., 2,500,000 cu. ft. of gas. Trenton Co. No. 1 Morrison Heirs, 3,912-56 ft., 544 bbl. Underwood & Campbell No. 41 R. Campbell C, 932 ft., dry. Underwood & Campbell No. 42 R. Campbell C, 909 ft., dry.

EASTERN TEXAS

DALLAS, Tex., June 5.—Activity in two areas of eastern Texas, one the recently discovered Mabank pool of northwestern Henderson County, centered the majority of attention in that district during the week.

As an offset to the discovery well in the Mabank pool, about 2 miles northeast of the Flag Lake pool, and in Henderson County, Richards & Holloway, Inc., completed No. 1 Bauguess, J. Gardner Survey, southwest offset to the first well, for a flow of 62 bbl. of oil in 4 hours. The discovery well was completed for approximately 50 bbl. of oil daily. Production is from the Woodbine sand from 3,151-59 ft. The operators of No. 1 Bauguess, together with Tyler & Smith, have a west offset to the discovery staked and expect to start operations immediately.

In the northern extension area of the Navarro Crossing pool in northern Houston County, materials are being moved in for the immediate drilling of the second test by Hinchliffe & Smith on the Gilmore lease farmed out from the Sun Oil Co. The operators have completed No. 1 Gilmore for 67 bbl. of oil daily from the Woodbine sand from 5,886-87 ft. The well is nearly a mile north of the field and in the Nathan Wade Survey. North of the new completion the operators are preparing to drill No. 2 Gilmore, northwest corner of the 90-acre Gilmore tract in the southwest corner of the Nathan Wade Survey. In the Navarro Crossing pool proper, Humble Oil & Refining Co. completed No. 3 Dailey, 2,200 ft. east of the discovery well, for 37 bbl. of oil daily with 1,999,000 cu. ft. of gas. Flow is through perforations from 5,875 to 5,879 ft., Woodbine sand.

Leon County

The Leon County extension area of the Navarro Crossing pool received a setback as Humble Oil & Refining Co. No. 1 Polen, east offset to the discovery extension well, flowed water and only a small amount of oil on first completion attempt from 5,881 ft. The test is bottomed at 5,884 ft. and operator previously perforated at 5,876-77 ft. and squeezed off the holes in a move to shut off a portion of the gas sand. Testing continues.

Opelika Area

In the Opelika area of Henderson County, Tide Water-Seaboard-Humble has two tests drilling below 5,500 ft. toward the Paluxy horizon of the area. The partnerships' No. 1 Allie Scott, C. Robb Survey, 3 miles southwest of the area, is drilling below 6,250 ft. No. 1 J. H. Lewis, J. K. Stokes Survey, is below 5,581 ft. Both tests are seeking oil production in this gas and distillate field.

Locations

Three new wildcat locations were made in the area during the week, two being in Kaufman County and one in Red River County. Griffith & Griffith have located No. 1 Murray in the W. Fulcher Survey, 3 miles north of Elmo in Kaufman County. W. S. McGee staked location for No. 1 San Antonio Joint Land & Cattle Co., E. Higdon Survey, Kaufman County. In Red River County Kansas-Oklahoma Petroleum Corp. located No. 1 R. H. Ringwald in the A. Moore Survey, 3 miles west of Manchester.

EAST TEXAS FIELD COMPLETIONS

(1-hour gage)

Gregg County—Kilgore Area

Cities Service Oil No. 21 E. L. Walker, 3,689-3,715 ft., 44 bbl. P. F. Rutledge No. 3 State, 3,580-82 ft., 80 bbl.

Gregg County—Longview Area

General American Oil No. 3 L. A. Rooden, 3,571-74 ft., 90 bbl. Magnolia Petroleum Co. No. 25 H. B. Ziegler, 3,426-52 ft., 8 bbl. W. L. Pickens No. 3 L. M. Colburn, 3,558-68 ft., 60 bbl. Shell Oil Co., Inc., No. 13 G. Jones, 3,494-3,570 ft., 56 bbl. Stanolind Oil & Gas

No. 17 O. J. Albright, 3,550-3,651 ft., 29 bbl. Stanolind Oil & Gas No. 13 A. A. Castleberry, 3,583-3,604 ft., 24 bbl. Stanolind Oil & Gas No. 19 P. McGeorge, 3,460-3,514 ft., 48 bbl.

Rusk County—Joiner Area

Cook Drilling Co. No. 5 F. J. Cox, 3,675-3,720 ft., 37 bbl. J. C. Stroud No. 3 D. Bradford, 3,635-65 ft., 30 bbl.

Smith County—Joiner Area

Humble Oil & Refining Co. No. 1-S M. C. Thompson, 3,711-95 ft., 60 bbl. Alex McCutchin No. 9 A. S. Jarvis, 3,651-52 ft., 20 bbl.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour gage)

Freestone County

Roger Steward No. 1 Harwell, 3,987-4,018 ft., 10,000,000 cu. ft. of gas.

Houston County

Hinchliffe & Smith No. 1 J. Gilmore, 5,884-91 ft., 67 bbl.

Titus County

Humble Oil & Refining Co. No. 2 T. G. Temple, 4,272-4,339 ft., 405 bbl.

Southwest Texas Fields

(Continued from Page 87)

111-C Welder, perforated casing 5,635-39½ ft., 136 bbl., ⅛-in. choke.

Starr County

South Ricaby field: W. W. Zimmerman No. 3 Wood, sand 1,780-94 ft., 100 bbl., jetting. Sun field: Sun Oil Co. No. 5 McKinney, 5,137 ft., dry and abandoned.

Travis County

Kimbro field: J. M. Grimes No. 2 Pearson, 730 ft., abandoned.

Victoria County

McFaddin field: Barnsdall Oil Co. No. 28 McFaddin, sand 4,391-4,410 ft., 113 bbl., 9/64-in. choke. Barnsdall Oil Co. No. 29 McFaddin, sand 4,396-4,409 ft., 151 bbl., 9/64-in. choke. Transwestern Oil Co. No. 13-E McFaddin Estate, sand 4,403-13 ft., 35 bbl., 14 hours, ⅛-in. choke.

Webb County

Killam field: O. W. Killam No. 3 Garcia, perforated casing 1,990-97 ft., 40 bbl., pumping. North Killam field: V. G. Schimmel, perforated casing 2,036-40 ft., 85 bbl., pumping.

Zapata County

Mirando Valley field: Buffalo Oil Co. No. 9-A Hinnant, sand 1,991-97 ft., 52 bbl., pumping. Buffalo Oil Co. No. 7-C Hinnant, sand 1,989-94 ft., 107 bbl., pumping.

La.-Ark. Fields

(Continued from Page 70)

El Dorado—Union County

Sam Sebersky and others No. 2 J. N. Jerry, 100 ft. SW of No. 1 in Section 21-17-14, total depth 2,698 ft., dry and abandoned.

Schuler—Union County

Lion Oil Refining Co. No. 3 F. N. Bank, C S½ SW SE Section 12-18-18, 360 bbl. per day, ⅛-in. choke, tubing pressure 1,025 lb., casing pressure 1,575 lb., perforated at 7,620-40 ft., total depth 7,695 ft.

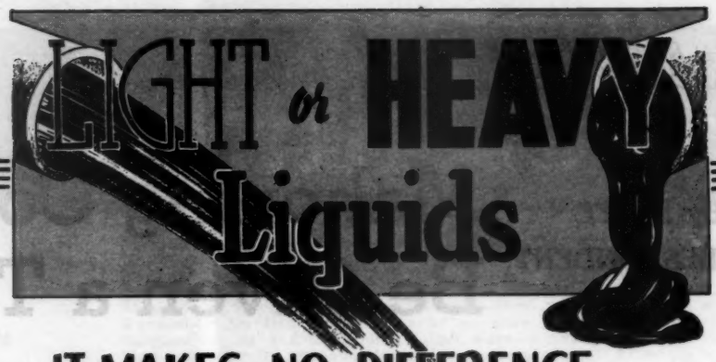
EAST BORDER TEXAS

Wildcat—Panola County

E. P. Pewitt and other No. 1 E. J. Rushing, Mannon Smith Survey, dry and abandoned at 5,817 ft. Turner & Smith No. 1 Bird, Gillispy Survey, 40,000,000 cu. ft. of gas, casing and tubing pressure 2,300 lb., set 7-in. casing at 4,985 ft., total depth.

Rehearing Ordered on Hugoton Gas Rules

WICHITA, Kans.—A rehearing on its rules for production, sale and conservation of gas in the Hugoton field will be held at Wichita June 12, the Corporation Commission announced.



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Eastern Field Report

By STAFF CORRESPONDENT

Mahoning County, Ohio, Will Be Given a Test to Oriskany

PITTSBURGH, Pa., June 5.—The Tri State Gas Co. has made a location for an Oriskany test on the T. W. Baird farm in the northeast corner of Poland Township, Mahoning County, Ohio, 1½ miles north of the Mahoning River and about 100 ft. from the Pennsylvania State line. The location was made both from surface geology and geophysical exploration, with two tests drilled in the Oriskany sand in the near vicinity as guides. Both of these tests found good gas pays in the upper part of the sand but both were drowned out by salt water. The new test expects to reach the lower Devonian higher on structure. W. I. Gettman is the contractor. The surface elevation is about 1,150 ft.

In West Virginia, the test of the Columbian Carbon Co. on the N. L. Ervin, Giles Hammat, and Edward Hammat heirs consolidation on the Burning Springs anticline in Grant district, Pleasants County, is drilling at 5,278 ft., or 49 ft. in the Oriskany sand. The small flow of salt water has exhausted itself. There has been no showing of gas.

In Pennsylvania, L. J. Houze Convex Glass Co. is drilling at 7,731 ft. on the Paul Dunham farm in Springhill Township, Fayette County. It is on the Chestnut Ridge anticline. This places the depth 32 ft. in the Oriskany sand and no gas has been found below the small amount in the Onondaga. The sand appears impure with a large content of chert.

SOUTHEAST OHIO

Several fair gas wells were completed in Ohio during the week. Benedum & Trees continued their success in the Newburg gas pool in Cuyahoga County with two completions. In Highland Heights village, the test on the R. G. Williams farm was bottomed at 2,797 ft. and after a shot it gaged 1,565,000 cu. ft. a day in 12 minutes. The test on the Parr farm was a larger well with a gage of 2,800,000 cu. ft. a day and a final depth of 2,786 ft. These operators were drilling at 1,895 ft. on the Jesse Killoran farm, and at 1,884 ft. on the J. V. Whitbeck farm.

In Licking County, Joe Rubin and others completed a gas well on the Lawrence Hughes farm, SE¼ Section 25, Mary Ann Township, in Clinton sand, total depth 2,600 ft. It gaged 2,000,000 cu. ft. of gas a day.

In Medina County, Dymo Oil Corp. completed four shallow oil wells on the W. H. Ripley farm in Section 13, Chatham Township, all in the Berea grit. All were shot and had a good showing of oil, but will not be put to pumping until ready for the water test.

In Monroe County, C. E. English and others completed a gasser on the Scott and Cline lease in Section 24, Washington Township, in Berea grit at 2,130 ft. It gaged 150,000 cu. ft. a day.

In Washington County, E. A. Metcalf No. 1 and others No. 3 A. J. King, in Section 22, Liberty Township, was completed in Keener sand at 1,300 ft. It made 8 bbl. the first day, which was increased to 13 bbl. a day after shot. In Section 7, Aurelius Township, C. A. Fogle and others completed a well on the B. B. Putnam farm in the Three Hundred Foot sand at 297 ft. It has a gas volume of 47,000 cu. ft. a day and made 17 bbl. of oil the first 24 hours it was pumped. It, however, produced a much larger quantity of water.

SOUTHWEST PENNSYLVANIA

A large gas well was completed in Armstrong County by T. W. Phillips Gas & Oil Co. on the H. H. Harkleroad farm in Cowanshannock Township. The Bradford sand was topped at 3,497 ft. with gas gaging 7,500,000 cu. ft. a day at 3,505 ft. In this township, Peoples Natural Gas Co. completed a well on the Frank Shettler farm at 3,640 ft. Bradford sand lay at 3,541-90 ft.; gas 3,561 ft. with a gage of 681,000 cu. ft. a day. At 3,582-90 ft., the gage was 2,218,000 cu. ft. a day. This company is shut down for a new drilling line in the test on the Jacob Wagner farm.

There is considerable activity in Armstrong County. In Cowanshannock Township, Edward Young and others are down 250 ft. on the Wilda McCurdy farm. L. F. Watson and others are drilling at 1,100 ft. on the Jake Harkleroad farm. The Equitable Gas Co. has a rig up on the D. W. Raraigh farm. The Chickasaw Gas Co. is shut down on the Cowanshannock Coal & Coke Co. land.

In Wayne Township, Armstrong County, Dr. Mehan is drilling at 3,500 ft. on his fee. The Apollo Gas Co. is building a rig for a second test on the Drohn heirs farm. In Plumcreek Township, this company is drilling at 485 ft. on the Edgar Harkleroad farm. T. W. Phillips Gas & Oil Co. is down 685 ft. on the C. N. Scheaffer farm. In Manor Township, John Wray & Co. is drilling at 1,365 ft. on the John Guthrie farm, and in Boggs Township has moved in a rig for a test on the Samuel Yockley farm.

In Westmoreland County, Peoples Natural Gas Co. completed a light gas well on the J. and L. Masters farm in Washington Township, at 3,610 ft. In Franklin Township, this company is shut down in No. 3 Levi Beamer.

In Washington County, Amwell Township, Raymond Orrill and others deepened No. 1 Belle Kelsey to 1,393 ft. and it is good for 585,000 cu. ft. of gas a day at 1,383 ft., rock pressure 160 lb. Carnegie Natural Gas Co. deepened No. 1 W. S. Booth to 2,740 ft. with the Gantz sand at 2,649-79 ft.; Fifty Foot sand 2,679-2,742 ft., and a volume of 47,000 cu. ft. a day. Here, Chivers and others are drilling at 1,570 ft. on the Morgan Prigg farm with the Gas sand at 1,530-68 ft. and a show of gas at 1,540 ft.

In South Franklin Township, Harry Williams and others have rigged up No. 3 Jason Buchanan. In North Franklin Township, E. H. and J. B. Tague are drilling at 625 ft. in No. 15 Adaline D. McKennan.

In Dunkard Township, Greene County, Fred Garrison is rigging up on the Henderson Coal Co. lease. In Richhill Township, the Manufacturers Light & Heat Co. is ready to spud No. 2 Barnett Wiley.

In Washington Township, the Equitable Gas Co. is drilling at 2,766 ft. in No. 3 John Huffman.

In Washington Township, Indiana County, Equitable Gas Co. is cleaning out after shot in the test on the A. E. Gray farm, and is drilling at 1,250 ft. in a test on the J. J. Potts farm. T. W. Phillips Gas & Oil Co. is drilling at 875 ft. on the Sadie Lewis farm.

In South Mahoning Township, Phillips has reached 3,215 ft. on the Curt McMillan farm. In Porter Township, Clarion County, the Apollo Gas Co. is drilling at 300 ft. on the A. A. Brinker farm.

Deep Tests

The New Penn Development Co., William E. Snee and others have started deepening No. 1 Summit Hotel (Heyn). It is a gas well from the Onondaga lime bottomed at 6,667 ft. and will be deepened to the Oriskany sand.

In Rochester Township, Beaver County, the Columbian Fuel Co. is drilling in slate and shells at 2,555 ft. in the test on the Abbie Linnenbrink farm. In Armstrong County, Peoples Natural Gas Co. has reached 6,087 ft. in the test on the Lowry Martin farm on the Greendale anticline, in Wayne Township.

WEST VIRGINIA

Four gas wells were completed in West Virginia during the week, one of which was in the Oriskany gas field. In Ritchie County, J. F. Deem completed No. 3 Mansfield Haught in Injun sand at 1,736 ft., and it is good for 75,000 cu. ft. a day.

In Cabell County, United Fuel Gas Co. completed No. 4833 Wesley Creamens, in McComas district, at 3,462 ft.; Brown shale at 3,395-3,461 ft. The gage is 436,000 cu. ft. a day, 36 hours after the shot.

In Roane County, C. W. Hickman's well on the Harold Anderson farm in Geary district, gaged 26,500 cu. ft. of gas from 1,057 ft., the Salt sand at 1,009-57 ft.

Oriskany Gas Field

In Poca district, Kanawha County, United Fuel Gas Co. is completing No. 4830 on the C. O. Slater and others lease at a depth of 4,975 ft., with a gage of 3,277,000 cu. ft. a day.

Several new locations were made. In Poca district, the Columbian Carbon Co. will drill on the Celeste Parcell farm, elevation 960.4 ft.; United Fuel Gas Co. on the W. J. Glass and C. T. Tolley farm; in Elk district, Columbian Carbon Co. on the Mose Pushkin farm, elevation 1,026.5 ft., and on the Lelia Hanna farm, elevation 697.0 ft.

In Poca district, United Fuel Gas Co. is reaming at 714 ft. in No. 4831 B. C. Gillespie and others, and building road for a E. U. Dawson test. Godfrey L. Cabot, Inc., is drilling at 550 ft. in No. 2 Putnam Co., at 1,515 ft. in No. 2 D. Holmes Moryon, and at 1,328 ft. in No. 3; at 160 ft. in No. 2 J. L. McLean. Brawley-Reid Oil & Gas Co. is down 1,120 ft. in the A. L. Campbell test; Mullins Gas Co. at 1,440 ft. on the Johnson-Carney lease; Meigs Development Co. at 1,837 ft. on the E. P. Higginbotham test; Spartan Gas Co. at 3,895 ft. on the Burdette-Haston test. United Carbon Co. topped the Coniferous at 4,822 ft. on the A. H. Campbell farm, and was waiting for cement at 2,171 ft. on the D. D. Slater and others lease.

In Elk district, Poca Fork Oil & Gas Co. is shut down at 5,076 ft. In Union district, Ajax Gas Co. is drilling at 1,900 ft. on the Perry Marks land; M. C. Allen is drilling at 3,950 ft. on the Solon Fletcher farm.

Deep Tests

In Ravenswood district, Jackson County, Joe Rubin and others are drilling at 1,080 ft. on the E. W. Brown land, north of Ravenswood, and have rig up on the C. A. Carson farm east of that point.

In Washington district, Jackson County, United Carbon Co. is drilling at 2,740 ft. in No. 4 Elizabeth W. Perkins. In Ripley district, Everett Starcher and others are down 5,057 ft. on the Grady F. Boggess land, and at 2,005 ft. on the D. M. Boggess land.

In Boone County, Owens-Libby-Owens Gas Department has reached 5,917 ft. in No. 13 Bull Creek Coal & Land Co., in Peytonia district. This well is being drilled to the Clinton sand.

Gulf Coast Fields

(Continued from Page 72)

¼-in. choke. Humble Oil & Refining Co. No. 11 West Production Co., sand 5,930-6,044 ft., 593 bbl., ¼-in. choke. Tomball field: Texas Co. No. 4 Doughtie, 5,556 ft., 400 bbl., ¼-in. choke. Humble Oil & Refining Co. No. 5 Petrich, 5,555-65 ft., 264 bbl., ¼-in. choke

Tyler County

Spurger field: Republic Production Co. No. 20 fee, 7,705 ft., 271 bbl., ¼-in. choke.

Wharton County

Magnet field: Humble Oil & Refining Co. No. 13 Cockburn, sand 5,527-38 ft., 422 bbl., ¼-in. choke. Withers field: Smith & McDannald No. 1 Mary L. Martl, sand 5,540-49 ft., 111 bbl., ⅛-in. choke. Withers field: Texas Co. No. 10 Broussard, 5,546 ft., 91 bbl., ⅛-in. choke. Texas Co. No. 12-A Thompson, sand 5,473-5,542 ft., 114 bbl., ⅛-in. choke.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S.T.R.	Depth	Status
Cole, F. E., No. 1 Ferini, Santa Maria Val., S. Barb.	15-10-35	4,753	dry; idle
Union Oil, No. 5 Vicente, Santa Maria Val., S. Barb.	21-10-34	3,170	sd. sh. drlg.
Hogan Pet., No. 1 Zabala, Casmalia, Santa Barbara	33- 9-34	1,100	will deepen
Petrol Corp., No. 32-A Tognazzini, Gato Rid., S. Barb.	9- 8-32	3,100	O.S. drlg.
Arnold, E. C., No. 2 Careaga, Los Alamos, S. Barbara	8- 8-33	6,838	cmtd. fish
Field, O. C., No. 1 White, Cat Canyon, S. Barbara	21- 9-33	6,080	hd. sh. drlg.
United West. Oil, No. 1 Los Olivos, Santa Barbara	16- 7-30	3,841	idle
Richfield Oil, No. 1 San Marcos, Sisquoc, S. Barbara	20- 6-29	1,961	cleaning out
General Pet., No. 4 More, Goleta, Santa Barbara	15- 4-28	4,285	sd. sh. drlg.
Topeka Oil, No. 17 State, Summerland, Santa Barb.	22- 4-26	1,496	will deepen
Section 20 Oil, No. 21 Sespe, Ventura	20- 5-19	2,875	sd. sh. drlg.
English, J. A., No. 1 Lankershim, Hopper Can., Ven.	13- 4-19	1,436	sd. sh. drlg.
Levesque, G. M., No. 1 Robertson, Simi, Ventura	17- 2-18	1,836	gr. sh. drlg.
Galveston Oil, No. 1 Basola, Bardsdale, Ventura	5- 3-19	3,150	idle
Texas Co., No. 137 Shiells, Shiells Canyon, Ventura	4- 3-19	3,223	redrlg. 2,235
El Rancho Oil, No. 3 Elkins, Shiells Canyon, Ventura	9- 3-19	2,962	sd. sh. drlg.
Continental Oil, No. 11 Grubb, San Miguelito, Vent.	24- 3-24	5,718	sd. sh. drlg.
C. C. M. Oil, No. 7-A Hobson, Padre Canyon, Ventura	15- 3-24	5,743	cleaning out
C. C. M. Oil, No. 27-B Hobson, Rincon, Ventura	16- 3-24	4,917	P.B. 4,850
Tide Water A. O., No. 34 V.L.W., Ventura A., Vent.	24- 3-23	6,660	sd. sh. drlg.
Tide Water A. O., No. 40 V.L.W., Ventura A., Vent.	25- 3-23	10,380	O.S. drlg.
Tide Water A. O., No. 14 McGonigle, Ventura A., Ven.	23- 3-23	9,230	sd. sh. drlg.
Tide Water A. O., No. 84 Lloyd, Ventura A., Ventura	27- 3-23	5,070	sd. sh. drlg.
Tide Water A. O., No. 124 Lloyd, Ventura A., Ventura	23- 3-23	8,496	sd. sh. drlg.
Tide Water A. O., No. 8 Hartman, Ventura A., Vent.	22- 3-23	8,650	recmtd. 8,590
Shell Oil, No. 99 Taylor, Ventura Ave., Ventura	29- 3-23	7,050	sd. sh. drlg.
Shell Oil, No. 23 Gosnell, Ventura Ave., Ventura	29- 3-23	6,315	sd. sh. drlg.
Shell Oil, No. 33 Edison, Ventura Ave., Ventura	28- 3-23	8,290	cleaning out
Brit. Amer. Oil, No. 7 Bolsa, Ventura Ave., Ventura	22- 3-23	8,340	flow 1,750 b.d.
Lloyd Corp., No. 2 Dabney, Ventura Ave., Ventura	23- 3-23	9,921	O.S. drlg.
Emigrant Oil, No. 1 Den, Devil's Den, Kern	24-25-18	4,174	deepening
Belridge Oil, No. 35-38, North Belridge, Kern	35-27-20	7,561	sd. sh. drlg.
Belridge Oil, No. 28-25, North Belridge, Kern	28-27-20	8,500	redrlg. 6,896
Tide Water A. O., No. 21, North Belridge, Kern	21-27-20	4,994	sd. sh. drlg.
Richfield Oil, No. 3 Belridge, North Belridge, Kern	22-27-20	7,569	redrlg. 7,171
Dilamar Oil, No. 3 Quinn, Jasmin, Kern	15-25-27	2,902	idle
Sieman, Fred, No. 2 Extension, Edison, Kern	6-30-29	2,592	will deepen
Pan-May Oil, No. 1 Kelly, Round Mountain, Kern	31-27-29	1,863	no oil; abd.
Grizzly Bear Oil, No. 3 Kelley, Round Mount., Kern	6-28-29	105	sd. sh. drlg.
Brown & Cameron, No. 1 Brown, Kern River, Kern	27-28-28	102	sd. sh. drlg.
Berryman, F. L., No. 1 Kern, Kern River, Kern	27-28-28	466	idle
D. B. K., No. 5 Kern, Kern River, Kern	34-28-28	171	sd. sh. drlg.
Grogg & Fisher, No. 1 Kern, Kern River, Kern	27-28-28	98	sd. sh. drlg.
Wright & Eyer, No. 1 Dome, Mount Poso, Kern	28-26-28	1,514	rig to pump
Crestmont Oil, No. 1 Buchner, Mount Poso, Kern	20-26-28	1,547	rig to pump
Texas Co., No. 1 Jewett, Arvin, Kern	16-31-29	6,211	flow 1,632 b.d.
Standard Oil, No. 2 Jewett, Arvin, Kern	16-31-29	5,850	sd. sh. drlg.
Western Gulf Oil, No. 42-B, KCL, Fruitvale, Kern	14-29-27	2,945	P.B. 2,809
Pacific Southwest Oil, No. 1 Dillon, Fruitvale, Kern	27-29-27	4,068	cmtd. 3,970
Union Oil, No. 1-36, KCL, Shafter, Kern	36-27-24	12,985	cleaning out
Cal. Expl., No. 1 Dougherty-Salisbury, Butwlw., Kern	7-29-24	12,989	P.B. 12,814
General Pet., No. 2 Van Ness, Rio Bravo, Kern	2-29-25	10,610	sd. sh. drlg.
Union Oil, No. 8-34, KCL, Rio Bravo, Kern	34-28-25	11,290	O.S. drlg.
Standard Oil, No. 2 Fleishauer, Greeley, Kern	20-29-26	11,600	flow 265 b.d.
Standard Oil, No. 11-18, KCL, Greeley, Kern	18-29-26	7,790	cmtd. 7,735
Standard Oil, No. 11-19, KCL, Greeley, Kern	18-29-26	5,994	sd. sh. drlg.
Standard Oil, No. 12-6, KCL, Greeley, Kern	30-29-26	11,475	gr. sh. drlg.
Continental Oil, No. 2-D, KCL, Bellevue, Kern	14-30-26	8,250	sd. sh. drlg.
Shell Oil, No. 78-24-A, KCL, Ten Section, Kern	24-30-25	8,030	sd. sh. drlg.
Shell Oil, No. 36-14-A, KCL, Canal, Kern	14-30-25	8,340	flow 1,875 b.d.
Tide Water A. O., No. 35-E, KCL, North Canal, Kern	7-30-25	8,364	P.B. 8,251
Ohio Oil, No. 12-E, KCL, Canal, Kern	14-30-25	8,020	sd. sh. drlg.
Richfield Oil, No. 12-33-A, KCL, Tupman, Kern	33-30-25	6,370	sd. sh. drlg.
Standard Oil, No. 21-1, KCL, Tupman, Kern	19-30-25	8,930	sd. sh. drlg.
Richfield Oil, No. 14-3-B, KCL, Coles Levee, Kern	3-31-25	8,196	sd. sh. drlg.
Tide Water A. O., No. 61 KCL, Coles Levee, Kern	14-31-25	9,841	sd. sh. drlg.
Standard Oil, No. 20-1, KCL, Coles Levee, Kern	9-31-25	9,216	fish D.P.
Ohio Oil, No. 2-F, KCL, Coles Levee, Kern	10-31-25	8,650	flow 160 b.d.
Richfield Oil, No. 1-D-B Crampton, Elk Hills, Kern	1-31-24	2,796	sd. sh. drlg.
Standard Oil, No. 218-15-D fee, Midway-Sunset, Kern	15-32-24	3,530	O.S. drlg.
Standard Oil, No. 21-C fee, Midway-Sunset, Kern	1-32-23	2,799	sd. sh. drlg.
Vista Grande Oil, No. 1 Schultz, Midway-Sunset, Kern	36-32-23	3,630	rig to pump
Van Fleet & Durkee, No. 3 Hoyst, Mid.-Sunset, Kern	36-32-23	2,510	will P.B.
General Pet., No. 1 B.V.A., Midway-Sunset, Kern	1-32-24	4,540	cleaning out
Manley & McGinn, No. 15 Midway, Mid.-Sun., Kern	15-31-22	1,232	pump 30 b.d.
Par Oil & Gas, No. 1 Hager, Midway-Sunset, Kern	16-31-22	1,950	gr. sd. drlg.
West. Gulf Oil, No. 1 Panhandle, Buena V. L., Kern	3-32-26	6,398	sd. sh. drlg.
Gates, F. E., No. 2 Laymance, McKittrick, Kern	20-30-22	1,474	water witch
Richfield Oil Corp., No. 1 KCL, Wheeler Ridge, Kern	28-11-20	11,004	O.S. drlg.
Continental Oil, No. 1-F KCL, San Emidio, Kern	5-10-21	3,060	sd. sh. drlg.
Bannow, L. E., No. 1 Irwin, San Emidio, Kern	15-10-23	489	sd. sh. drlg.
Shell Oil, No. 76-31 Union, San Emidio, Kern	31-11-22	4,026	sd. sh. drlg.
Petrol Corp., No. 33-5 Reserve, Tejon, Kern	33-11-19	8,946	will redri.
Central Valley Oil, No. 1 Com., El Prado, Fresno	1-12-20	1,210	deepening
Shell Oil, No. 48-30 Port Costa, Turk, Fresno	30-17-16	8,594	sd. sh. drlg.
Texas Co., No. 1 Loescher, Burrell, Fresno	12-17-16	1,895	sd. sh. drlg.
Stuart Oil, No. 1 Hill, West Coalinga, Fresno	12-21-14	1,410	recmtd. 1,385
Tyler & Cornwell, No. 4 Tyler, West Coalinga, Fresno	14-20-14	280	will recmt.
Rylatt, Harry, No. 3 Kipling, West Coalinga, Fresno	26-20-14	1,660	sd. sh. drlg.
Bandini Pet., No. 48-18-Webb, N.E. Coalinga, Fresno	18-19-16	3,381	sd. sh. drlg.
Amerada Pet., No. 26-17 S.P.L., N.E. Coalinga, Fresno	17-19-16	5,698	sd. sh. drlg.
Petseahon, No. 48-7-F, Southeast Coalinga, Fresno	7-20-16	3,171	sd. sh. drlg.
Petseahon, No. 75-7-F, Southeast Coalinga, Fresno	7-20-16	6,282	sd. sh. drlg.
Petseahon, No. 5-18-F, Southeast Coalinga, Fresno	18-20-16	5,270	sd. sh. drlg.
Texas Co., No. 1 Exeter fee, S.E. Coalinga, Fresno	6-20-16	7,550	hd. sh. drlg.
Texas Co., No. 2 Exeter fee, S.E. Coalinga, Fresno	6-20-16	2,895	sd. sh. drlg.
Standard Oil, No. 84-13-C fee, S.E. Coalinga, Fresno	13-20-15	1,985	sd. sh. drlg.
Superior Oil, No. 6 fee, S.E. Coalinga, Fresno	7-20-16	8,008	O.S. drlg.
Superior Oil, No. 2 Cagle, S.E. Coalinga, Fresno	6-20-16	7,066	sd. sh. drlg.
Superior Oil, No. 1 P.V.F., S.E. Coalinga, Fresno	22-20-15	6,930	sd. sh. drlg.
Holly Dev., No. 82-12-C, S.E. Coalinga, Fresno	12-20-15	5,386	sd. sh. drlg.
K. N. D. A., No. 54-24-H, Kettleman North, Fresno	24-21-16	10,865	flow 1,354 b.d.
K. N. D. A., No. 4-18-Q, Kettleman North, Kings	18-22-18	8,280	sd. sh. drlg.
K.N.D.A., No. 2-20-Q, Kettleman North, Kings	20-22-18	7,070	sd. sh. drlg.
K. N. D. A., No. 4-22-Q, Kettleman North, Kings	22-22-18	2,275	sd. sh. drlg.
K. N. D. A., No. 58-22-Q, Kettleman North, Kings	22-22-18	7,285	sd. sh. drlg.
K. N. D. A., No. 4-26-Q, Kettleman North, Kings	26-22-18	6,284	br. sh. drlg.
Standard Oil, No. 87-7-Q, Kettleman North, Kings	7-22-18	6,583	br. sh. drlg.
Standard Oil, No. 52-17-Q, Kettleman North, Kings	17-22-18	7,370	sd. sh. drlg.
Standard Oil, No. 74-17-Q, Kettleman North, Kings	17-22-18	8,385	hd. sh. drlg.
Standard Oil, No. 85-17-Q, Kettleman North, Kings	17-22-18	5,992	sd. sh. drlg.
Standard Oil, No. 87-17-Q, Kettleman North, Kings	17-22-18	5,150	sd. sh. drlg.
Standard Oil, No. 41-21-Q, Kettleman North, Kings	21-22-18	8,190	O.S. drlg.
Standard Oil, No. 72-21-Q, Kettleman North, Kings	21-22-18	7,090	sd. sh. drlg.
Standard Oil, No. 83-21-Q, Kettleman North, Kings	21-22-18	7,785	P.B. 7,240
Epco, Inc., No. 1 Cuyama, Creston, San Luis Obispo	27-27-13	5,250	hd. sh. drlg.
Newton, S. M., No. 1 Stafford, Panorama, S. L. Obispo	18-21-21	2,715	sd. sh. drlg.
Texas Co., No. 1 Arroyo Seco, Greenfield, Monterey	11-19- 5	4,029	sd. sh. drlg.
Standard Oil, No. 1 Calpac, Rio Vista, Solano	15- 5- 2	4,006	hd. sd. drlg.
Buttes Oilfields, No. 5 Butte, Sutter Buttes, Sutter	1-15- 1	2,500	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S.T.R.	Depth	Status
D. & J. Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	4,990	sd. sh. drlg.
Elliott, D. W., No. 8 Kettler, Torrance, Los Angeles	23- 4-14	4,406	P.B. 3,542
F. S. D. Oil, No. 1 Willacy, Torrance, Los Angeles	23- 4-14	3,790	pump water
Kildumac Oil, No. 1 Mitchell, Torrance, Los Angeles	23- 4-14	5,144	pump 50 b.d.
C. C. M. Oil, No. 12 Kettler, Torrance, Los Angeles	23- 4-14	4,230	deepening
Packard Oil, No. 1 Louden, Torrance, Los Angeles	23- 4-14	5,086	pump 98 b.d.
Pac. West Oil, No. 22 Lomita, Torrance, Los Ang.	23- 4-14	4,965	pump 280 b.d.
Standard Oil, No. 1-11 Marble, Torrance, Los Ang.	22- 4-14	4,970	flow 50 b.d.
General Pet., No. 7 Poggi, Harbor City, Los Angeles	23- 4-14	3,800	pump water
Texas Co., No. 6 Oakley, Harbor City, Los Angeles	30- 4-13	2,898	sd. sh. drlg.
Union Oil, No. 68 Callender, Dominguez, Los Ang.	32- 3-13	7,395	flow 940 b.d.
Shell Oil, No. 98 Reyes, Dominguez, Los Angeles	33- 3-13	7,517	O.S. drlg.
Universal Consd., No. 17 Trust, Rosecrans, Los Ang.	18- 3-13	3,197	sd. sh. drlg.
Royalty Ser., No. 4 Gordon, Rosecrans, Los Angeles	19- 3-13	6,580	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd. cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.S.T., drill stem test.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., owell drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrk. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing)
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C., or W.O.C.S., waiting on cement to set.
W.O.O., waiting for orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Bankline Oil, No. 1 Kirby, Rosecrans, Los Angeles	19-	3-13	7,875	O.S. drlg.
Howard Oil, No. 1 H. O., Rosecrans, Los Angeles	20-	3-13	7,645	O.S. drlg.
Wilshire Oil, No. 1 Leitch, Rosecrans, Los Angeles	19-	3-13	7,870	sd. sh. drlg.
Marion, J. H., No. 2 Athens, Rosecrans, Los Angeles	19-	3-13	7,893	flow 175 b.d.
Empire Oil, No. 1 Samarkand, Playa Del Rey, L. A.	34-	2-15	6,300	schist, drlg.
Standard Oil, No. 1 Ward, Aliso Canyon, Los Ang.	27-	3-16	6,795	sd. sh. drlg.
Tide Water A. O., No. 11 Porter, Aliso Can., L. A.	27-	3-16	2,020	hd. sd. drlg.
Union Oil, No. 1-27 Orcutt, Aliso Canyon, Los Ang.	27-	3-16	5,980	testing
O'Donnell, J. E., No. 1 Hammond, Newhall, Los A.	8-	3-16	4,820	cleaning out
General Pet., No. 35 Ford, Wilmington, Los Angeles	4-	5-13	4,125	O.S. drlg.
General Pet., No. 9 S. P., Wilmington, Los Angeles	2-	5-13	4,040	O.S. drlg.
Gremac Oil, No. 1 Harbor, Wilmington, Los Ang.	4-	5-13	1,974	sd. sh. drlg.
Hollywood Oil, No. 7 Baxter, Wilmington, Los A.	35-	4-13	3,197	sd. sh. drlg.
Long Beach Dev., No. 1-X Harbor, Wilmington, L. A.	3-	5-13	3,875	sd. sh. drlg.
Long Beach Dev., No. 2-X Harbor, Wilmington, L. A.	2-	5-13	3,866	flow 1,800 b.d.
Long Beach Dev., No. 3-X Harbor, Wilmington, L. A.	2-	5-13	3,870	sd. sh. drlg.
Long Beach Dev., No. 4-X Harbor, Wilmington, L. A.	2-	5-13	3,870	sd. sh. drlg.
Long Beach Dev., No. 5-X Harbor, Wilmington, L. A.	2-	5-13	3,855	sd. sh. drlg.
Long Beach Dev., No. 6-X Harbor, Wilmington, L. A.	2-	5-13	3,840	flow 1,500 b.d.
Long Beach Dev., No. 1-Y Harbor, Wilmington, L. A.	2-	5-13	3,875	sd. sh. drlg.
Long Beach Dev., No. 2-Y Harbor, Wilmington, L. A.	2-	5-13	2,990	sd. sh. drlg.
Long Beach Dev., No. 3-Y Harbor, Wilmington, L. A.	2-	5-13	2,871	sd. sh. drlg.
Long Beach Dev., No. 4-Y Harbor, Wilmington, L. A.	2-	5-13	2,660	sd. sh. drlg.
Long Beach Dev., No. 5-Y Harbor, Wilmington, L. A.	2-	5-13	2,460	sd. sh. drlg.
Long Beach Dev., No. 6-Y Harbor, Wilmington, L. A.	2-	5-13	2,964	sd. sh. drlg.
Macson Oil, No. 3-55-G Harbor, Wilmington, L. A.	32-	4-13	3,050	sd. sh. drlg.
Oakes & Combs, No. 5-D Harbor, Wilmington, L. A.	3-	5-13	3,490	sd. sh. drlg.
Petroleum Midway, No. 1-G Kupfer, Wilm., L. A.	35-	4-13	2,930	sd. sh. drlg.
Richfield Oil, No. 24-P.D., Wilmington, Los Angeles	2-	5-13	2,796	sd. sh. drlg.
Richfield Oil, No. 29-P.D., Wilmington, Los Angeles	2-	5-13	2,080	sd. sh. drlg.
Signal O. & G., No. 3-P.D., Wilmington, Los Angeles	3-	5-13	2,040	sd. sh. drlg.
Signal O. & G., No. 2-C.D., Newport, Wilm., Los A.	2-	5-13	4,275	flow 600 b.d.
Signal O. & G., No. 1-S.P., Wilmington, Los Angeles	2-	5-13	3,690	sd. sh. drlg.
Sunray Oil, No. 1-A Santa Fe, Wilmington, Los Ang.	35-	4-13	5,120	deepening
Union Pacific R. R., No. 109, Wilmington, Los Ang.	3-	5-13	3,890	sd. sh. drlg.
Union Pacific R. R., No. 110, Wilmington, Los Ang.	34-	4-13	2,070	sd. sh. drlg.
Union Pacific R. R., No. 16-E, Wilmington, Los Ang.	3-	5-13	3,300	sd. sh. drlg.
Union Pacific R. R., No. 17-E, Wilmington, Los Ang.	34-	4-13	3,070	flow 190 b.d.
Ridge Oil, No. 1 Club, Montebello, Los Angeles	3-	2-12	6,525	sd. sh. drlg.
St. Helens Pet., No. 28 Monterey, Montebello, L. A.	2-	2-12	6,731	flow 260 b.d.
St. Helens Pet., No. 2 Eggleston, Montebello, L. A.	2-	2-12	7,145	will recmt.
St. Helens Pet., No. 2 Taylor, Montebello, Los Ang.	2-	2-12	7,135	completing
Standard Oil, No. 4 Harvey, Montebello, Los Angeles	2-	2-12	6,673	redrlg. 6,471
Standard Oil, No. 2 Braun, Montebello, Los Angeles	2-	2-12	6,970	deepening
Standard Oil, No. 3 Braun, Montebello, Los Angeles	2-	2-12	7,135	redrlg. 6,978
Standard Oil, No. 6 Whitehead, Montebello, Los A.	3-	2-12	7,655	O.S. drlg.
Union Oil, No. 32 La Merced, Montebello, Los Ang.	2-	2-12	3,267	sd. sh. drlg.
Union Oil, No. 2 Howard & Smith, Montebello, L. A.	2-	2-12	7,398	sd. sh. drlg.
Union Oil, No. 5 Howard & Smith, Montebello, L. A.	2-	2-12	6,411	sd. sh. drlg.
Union Oil, No. 2 Calkins, Montebello, Los Angeles	2-	2-12	1,897	sd. sh. drlg.
Union Oil, No. 5 Paul Howard, Montebello, Los A.	2-	2-12	4,496	sd. sh. drlg.
Stanley Oil, No. 1 Montebello, Montebello, Los Ang.	2-	2-12	7,020	sd. sh. drlg.
Bev. Mont. Oil, No. 1 Corbett, Montebello, Los Ang.	11-	2-12	5,190	sd. sh. drlg.
Mont. Wesco, Inc., No. 1 Montebello, Mont., Los A.	2-	2-12	7,618	O.S. drlg.
Mont. Reservoir Oil, No. 2 Water, Montebello, L. A.	2-	2-12	7,618	O.S. drlg.
Pongratz Pet., No. 1 Newmark, Montebello, Los A.	3-	2-12	7,641	O.S. drlg.
La Merced Drlg., No. 1 Drake, Montebello, Los Ang.	2-	2-12	7,160	sd. sh. drlg.
V-8 Oil, No. 1 M. B., Montebello, Los Angeles	2-	2-12	7,633	O.S. drlg.
Vulcan Oil, No. 1 Nash, Montebello, Los Angeles	2-	2-12	6,689	will deepen
Star Pet., No. 1 Banks, Montebello, Los Angeles	2-	2-12	3,187	sd. sh. drlg.
Bush Oil, No. 1 Alauzet, Montebello, Los Angeles	3-	2-12	2,596	sd. sh. drlg.
Herley-Kelly, Inc., No. 2 Masser, Montebello, L. A.	2-	2-12	6,550	O.S. drlg.
Colorado Oil, No. 19 Granger, Whittier, Los Ang.	22-	2-11	3,760	sd. sh. drlg.
Taylor Prod., No. 1 Gregg, Citrus Grove, Los Angeles	17-	2-11	4,094	sd. sh. drlg.
Perry & Associates, No. 1 Pool, Long Beach, Los A.	29-	4-12	6,850	O.S. drlg.
Union Oil, No. 21 Hole, East Coyote, Orange	23-	3-10	2,173	sd. sh. drlg.
Tide Water A. O., No. 54 Anaheim, E. Coyote, Orange	24-	3-10	3,634	cleaning out
Bartholomae Oil, No. 8 Stern, East Coyote, Orange	22-	3-10	4,788	completing
Standard Oil, No. 67 Emery, West Coyote, Orange	24-	3-11	4,240	gr. sh. drlg.
Severns Drlg., No. 4 McNally, West Coyote, Orange	24-	3-11	4,100	sd. sh. drlg.
Southwest Expl., No. 15 State, Huntington B., Orange	10-	6-11	5,950	pump 290 b.d.
Southwest Expl., No. 16 State, Huntington B., Orange	10-	6-11	3,760	sd. sh. drlg.
Southwest Expl., No. 19 State, Huntington B., Orange	10-	6-11	3,070	sd. sh. drlg.
Duchess Oil, No. 4 Farnsworth, Hunting. B., Orange	34-	5-11	3,600	will deepen

KANSAS

Week Ending June 3 (Descriptions are East unless marked otherwise)

Barton County

Amerada Pet. Corp. No. 1 Gagleman, C NE NE Sec. 23-19-15w. T.D. 3,578 ft.; D.&A.

Armer and Vernon O. & G. Co. No. 1 Hoffman, NW NW SW Sec. 18-16-11w. Drlg. 1,460 ft.

Broswood Oil and Earl Wakefield No. 1 Rule, NW SW NE Sec. 2-16-13w. Drlg. 108 ft.

Crown Pet. No. 1 Koch, NE NE NE Sec. 23-20-12w. Arb. 3,333 ft.; T.D. 3,358 ft.; acd.; pot. 273 B.O. and 69 B.W.; comp.

R. E. Day et al No. 1 Feltes, SE SE NE Sec. 14-16-12w. O.W.D.D. O.T.D. 1,875 ft.; fsg. 3,200 ft.

Butler County

Carey & Jennings No. 1 Kelly, C SW Sec. 20-27-4. Drlg. 1,507 ft.

Elbar Corp. No. 1 Martin, NE SE SE Sec. 34-26-7. T.D. 1,250 ft.; U.R. 10-in. csg.

G. S. Lucas and White Star Oil No. 1-A Lucas, NE NW NW Sec. 14-28-6. Drlg. 35 ft.

Simpson Oil Co. No. 1 Evans, CSL SW Sec. 21-28-7. Drlg. 2,995 ft.

Chase County

Alex McCoy No. 1 Berns, SE NW NE Sec. 29-22-6. H.F.W. 3,042-44 ft., T.D.; U.R. 6-in. csg.

Cowley County

Cities Service No. 1 Pope, SE NE SW Sec. 21-31-3. Drlg. 2,650 ft.

Hartman & Blair No. 1-A Brown, SE SE NW Sec. 33-30-4e. Drlg. 1,045 ft.

Dickinson County

Franks et al No. 1 Huffman, NW NW SW Sec. 11-13-1. S.D. 2,640 ft.

Ellis County

Central Pet. No. 4 Hadley, NE NE SE Sec. 12-11-18w. Lans. 3,054 ft.; T.D. 3,162 ft.; drld. cmt. to 3,155 ft.; shot at 3,068-3,105 ft.; acd.; pot. 1,163 B.O.; trying to shut off wtr.

K. F. Nelson No. 1 Novak, NW NW NE Sec. 36-13-16w. Drlg. 1,055 ft.

Ellsworth County

I. W. Murfin No. 1 Louis, NW NW SE Sec. 28-16-10w. Drlg. 1,110 ft.

Geary County

Scheu & Tague No. 1 Aye, NW SW NW Sec. 10-12-8. S.D. 1,857 ft.

Gray County

Champlin Ref. No. 1 Dirks, C NE SW Sec. 34-28-29w. Drlg. 2,100 ft.

Harvey County

Garden et al No. 1 Lagree, SE SE SE Sec. 4-23-3w. O.W.D.D.; O.T.D. 280 ft.; D.D. to 3,430 ft.; D.&A.

Haskell County

United Prod. No. 1 Illinois, NW NW SE Sec. 31-29-34w. Drlg. 2,700 ft.

Kiowa County

Sinclair Prairie No. 1 Price, NW NW SW Sec. 22-28-20w. Drlg. 3,970 ft.

Marion County

Tide Water Asso. and Ward McGinnis No. 1 Junghanns, SE SE SE Sec. 23-18-5. Drlg. 350 ft.

Mead County

Pacific Midwest Oil No. 1 Rexford, NE SE SW Sec. 8-30-29w. S.D. 1,435 ft.

Miami County

Dave Judd No. 1 Waite, CNL SW SE Sec. 4-15-25. S.D. 732 ft.

Norton County

Power Oil et al No. 1 Van Patten, C NE Sec. 26-4-21w. Lans. 3,325 ft.; Arb. 3,610 ft.; T.D. 3,665 ft.; perf. csg.; acd.; swbd. 200 B.O.P.D.; comp.

Osage County

J. M. Edwards No. 1 Detrick (O.W.D.D.), C NW SE Sec. 21-14-15. O.T.D. 1,200 ft.; drlg. 1,380 ft.

Ottawa County

Babcock Oil No. 1 Copeman, NW NW Sec. 18-10-2w. Drlg. 3,818 ft.

Phillips County

Blue Stem Oil Co. No. 1 Donaldson, SE NE NE Sec. 25-5-18w. Lans. 3,080 ft.; 700 ft. O.I.H.; set 7-in. csg. 3,080 ft.; W.O.C.

Rice County

Bridgeport Mch. No. 1 Pierce, CSL N½ NE Sec. 29-20-7w. Drlg. 1,530 ft.

Central Pet. No. 1 Dippel, CNL NE SE Sec. 27-19-10w. Drlg. 3,000 ft.

Continental Oil No. 1-B Hamilton, SW SW NE Sec. 19-18-7w. T.D. 3,475 ft.; set 7-in. csg. 3,461 ft.; W.O.C.

Finston & Co. et al No. 1 Hathaway, CNL NW SW Sec. 27-19-10w. Drlg. 1,585 ft.

Gulf Oil No. 1 Barngrover, CWL SW SW Sec. 30-19-9w. Arb. 3,269-84 ft.; T. D. 3,284 ft.; P. 441 B.O. in 8 hr.; pot. 1,322 B.O.; comp.

Nelson Drlg. Co. No. 1 Hodge, NW NW NE Sec. 25-20-6w. Surface hole.

Phillips Pet. Co. No. 1 Brandenstein, C SE NW Sec. 35-19-10w. Arb. 3,302 ft.; T.D. 3,306 ft.; acd.; P. 77 B.O. in 7 hr.

Rooks County

Web-Son Oil et al No. 1 Blair, SE NE NW Sec. 34-10-19w. Drlg. 2,566 ft.

Russell County

Braden & McClure No. 1 Biehm, SW SW NW Sec. 11-14-14w. Drlg. 1,540 ft.

Cities Service No. 1 Dutt, NW NW SE Sec. 18-13-14w. Pay 3,130-33 ft., T.D.; O.I.H.; rng. 7-in. csg.

Shawnee County

W. M. McKnab No. 1 Fritz, SW SE NW Sec. 4-12-14. D.&A.

Sumner County

Burke-Greis No. 1 Seyfert, SE SE SE Sec. 18-34-2. Fsg. 2,902 ft.

E. W. Shawver No. 1-C Hitchcock, C N½ NE NE Sec. 16-30-1w. Drlg. 1,725 ft.

Woodson County

Roby et al No. 1 Mealrs, SW SW NW Sec. 21-25-14. S.D. 1,230 ft.

MISSOURI

Andrew County

Birkett et al No. 1 Gee, NW NW SE Sec. 28-60n-35w. Drlg. below 240 ft.

Jones & Hyde No. 1 Holt, SE NW NE Sec. 34-60-35w. R.U. mch.

Bollinger County

Deimund Oil No. 1 Cooper, SE SE SE Sec. 14-29-9e. Cmt. 6-in. csg. 1,249 ft.; W.O.C. 1,250 ft.

Butler County

Coastal Pet. et al No. 1 Pierson, SW NE NW Sec. 27-22-6e. M.I. mch.

Cass County

C. C. Lewis et al No. 1 Chandler, NE cor. Sec. 4-45-33w. Arb. 1,335 ft.; T.D. 1,500 ft.; D.&A.

Clay County

Eastern Drlg. Co. No. 1 Williams, NW NW NE Sec. 25-53-32w. Drlg. 265 ft.

Frank Hopper et al No. 1 Black, NW NW NW Sec. 36-52-32w. Drlg. 1,487 ft.

Clinton County

C. E. King et al No. 1 Willis, NW NW NW Sec. 13-55n-32w. Miss. 895 ft.; S. D. 1,090 ft.

DeKalb County

Geo. W. Moore No. 1 McQuarter, NE SW SW Sec. 11-57n-31w. Set 10-in. csg. 752 ft.; S.D.

Hickory County

J. W. Sims No. 1 Wilson, NW NW NW Sec. 3-37n-21w. Drlg. 1,613 ft.

Holt County

Brin & Nathan No. 1 Garrett, C NE NE Sec. 1-61n-38w. Loc.

Markham et al No. 1 Gaffney, SW SE SW Sec. 24-63-40w. R.R.

J. H. Everitt et al No. 1 Spring, SW SW SE Sec. 30-62-38w. Cmt. 5-in. about 2,600 ft.; W.O.C.

Mercer County

Geo. W. Moore No. 1 Castell, NE NE NE Sec. 32-65-24w. Loc.

Platte County

Berry Bros. No. 1 Rule, C SW SW Sec. 20-53-33w. Set 12-in. 150 ft.; S.D. 253 ft.

Putnam County

E. F. Slater et al No. 1 Sayer, NE NW SE Sec. 14-65-18w. Drlg. 950 ft.

Schuyler County

T. E. Baldwin No. 1 May Johnson, NW NE NE Sec. 21-65-15w. R.U. mch.

Shelby County

Chas. Delfeld No. 1 Turner, C NW NW Sec. 27-59n-9w (wildcat). S.D. 215 ft.

Sullivan County

H. V. Elwell No. 1 Taylor, CNL S½ S½ Sec. 12-62-21w. Rig.

NEBRASKA

Cass County

Golden Rod Oil Co. No. 1 Sparer, SE SE SE Sec. 8-11-13e. S.D. 381 ft.

Hitchcock County

C. L. Price No. 1 Carter, SE NE SW Sec. 35-2n-32w. Lans. 3,976 ft.; S.D. 4,000 ft.; S.O.

Scotts Bluff County

J. A. Fairy Pet. Corp. No. 1 McCully, C SE SE Sec. 35-23n-58w. S.G. 785 ft.; U.R. 6-in. at 1,400 ft.

Albert Wood No. 1 McHenry, SE NE NE Sec. 33-23n-57w. S.D. 600 ft., T.D.

ARIZONA

Maricopa County

Sam F. Reaves No. 1 Fuqua, NW NW NE Sec. 34-1n-4w. Drlg. abd. at 1,160 ft.

Peoples G. & O. Co. No. 1 Gardner, SE Sec. 2-1n-3e. Loc.

Cochise County

Funk Dev. Co. No. 1 fee, SE NE Sec. 27-13s-30e. Cg. abd. at 6,562½ ft.

Apache County

Rincon Drlg. Synd. No. 1 State, N½ NW NE Sec. 28-13n-27e. Drlg. 150 ft.

Pima County

R. W. Schenck No. 1 Boyce, Sec. 22-19s-17e. Drlg. 400 ft.

Chinco Valley. No reports.

OKLAHOMA

Week Ending June 3

NORTHERN OKLAHOMA

Alfalfa County

Giblett No. 1 Rich, SE SE SW Sec. 2-1-12. S.D. 728 ft.

Cleveland County

Hall & Briscoe No. 1 Mantooth, NW NW NW Sec. 24-6-1e. Drk.

Nels Burton No. 1 Boggs, NE NE SE Sec. 16-9-2w. Drlg. 6,977 ft.

Nels-Burrton No. 1 Hirsch, NW NW NE Sec. 17-9-2w. O.W.P.B.; O.T.D. 7,692 ft.; T.D. 7,695 ft.; rerng. pmp.

Comanche County

Mid Night Oil No. 1 Howe, NW NW NE Sec. 30-2-13w. O.W.D.D.; O.T.D. 703 ft.; drlg. 820 ft.

Ellis County

Enterprize Drlg. Co. No. 1 Wahl, SE NW NW Sec. 1-19-25w. Sd. 660-65 ft.; T.D. 730 ft.; S.D.O.

Garfield County

Kerlyn Oil Co. No. 1 Hein, NW NW NW Sec. 36-22-4w. T.D. 5,042 ft.; S. D.O.

Garvin County

Robinson & Midco No. 1 Clay, SW SW NW Sec. 21-4-3e. Rig.

Grant County

Carter Oil No. 1 Staggers, C W½ SE NW Sec. 4-25-3w. Miss. 4,771 ft.; drlg. 5,112 ft.

Smythe & O'Mara No. 1 State, C SE SW Sec. 16-25-4w. Drlg. 3,920 ft.

Harmon County

Russo Drlg. No. 1 Abernathey, C SW SW Sec. 12-2-26w (3,000-ft. test). Set 7-in. csg. 2,580 ft.; W.O.C.

Harper County

Sinclair Prairie No. 1 George, SW SW SW Sec. 5-27-23w. Marmaton 5,079 ft.; drlg. 5,725 ft.

Hughes County

Carter Oil No. 1 Hamilton, C W¼ NE SW Sec. 33-4-9. T.D. 4,235 ft., S.D.
Continental Oil No. 1 Hudson, SE SE SE Sec. 8-4-9. Drlg. 3,900 ft.

Jackson County

English & Morgan No. 1 Lee, NW NW SE Sec. 36-2-19w. S.G. 1,360-63 ft.; T.D. 1,603 ft.; P.B. 1,243 ft.; S.D.O.

Jefferson County

H. M. Weir No. 1 Carmichael, NE NE SW Sec. 23-7s-7w. Drlg. with rotary at 110 ft.

Kingfisher County

K. A. Ellison No. 1 Baker, NE NE SE Sec. 20-19-5w. T.D. 7,323 ft.; S.D.O.
Ace Gutowsky No. 1 Lankford, NE NE SE Sec. 34-17-6w. Miss. 7,014 ft.; Woodford 7,531 ft.; Msnr. 7,562 ft.; Wlx. 8,-105 ft.; 2nd Wlx. 8,275 ft.; T.D. 8,330 ft.; S.D.O.

Kiowa County

C. J. Hagerling No. 1 Kimray, SW SW NW Sec. 36-5-18w. Drlg. 997 ft.
Russell S. Tarr No. 1 Kelsay, SW SW NW Sec. 20-7-17w. Pay 1,050-51½ ft.; F. 70 B.O.P.H. by hds.; est. 1,500 to 2,000 B.O.P.D; S.I.

Lincoln County

Black Gold No. 1 Connalay, NE NE NE Sec. 28-14-6. Drlg. 1,011 ft.
Cooper Drlg. Co. No. 1 Blaney, SW SW NW Sec. 13-14-5. Set 12½-in. csg. 81 ft.; W.O.C.
Cooper Drlg. No. 1 Johnson, NE NE NW Sec. 32-15-5. Cg. below 3,538 ft.
Fain Drlg. Co. No. 1 Wertman, SW SW SW Sec. 12-15-4. Drlg. 4,485 ft.
Mason & Nicholls No. 1 Lindsay, SW SE SE Sec. 26-12-3. Drlg. 1,700 ft.
W. A. Villines No. 1 Marshall, NW NE NE Sec. 28-15-4. Drlg. 4,770 ft.

Oklahoma County

R. Olsen No. 1 White, C NE NE Sec. 30-11-1. Vla. 6,338 ft.; dolo. 6,410 ft.; Wlx. 6,503 ft.; 2nd Wlx. 6,610 ft.; T. D. 6,636 ft.; F. 175 B.O. in 24 hr.; 20% wtr.; comp.

Pawnee County

Ed Kelly No. 1 Hill, SW SW SE Sec. 1-21-5. T.D. 2,845 ft.; whipstock 2,840 ft.; drlg. by tools.

Payne County

Kirk-Greenway No. 1 Kautz, NW SW SE Sec. 6-18-2. Wlx. 4,917-34 ft.; D.&A.

Pittsburg County

Phillips Pet. Co. No. 1 Hubacker, C NW NE Sec. 11-7-15. 1st Wlx. 7,514-24 ft.; drlg. 7,542 ft.

Pontotoc County

L. Walker No. 1 King, SW SE NW Sec. 5-4-7. T.D. 1,115 ft.; S.D.

Pottawatomie County

Alma Oil Co. No. 1 Johnson, SW NW SW Sec. 19-6-5. 2nd Wlx. 4,025 ft.; T. D. 4,062 ft.; P.B. 3,019 ft.; perf.; H. F.O.
F. W. Cooper No. 1 Strawn, SE SE SW Sec. 32-8-5. Drlg. 4,110 ft.
I.T.I.O. No. 1 Lambert, C E½ NW NE Sec. 6-5-2. Drlg. 3,779 ft.

Sequoyah County

Thompson Brs. No. 1 Ruby, NW NW NE Sec. 30-12-22. Drlg. 1,510 ft.

Seminole County

Culberson & Shepherd No. 1 Burton et al, SW NW SE Sec. 3-5-5. Cg. 2,084 ft.
Flynn et al No. 1 Work, NE SE SE Sec. 19-8-7. Drlg. 2,572 ft.
Woodson Oil No. 1 Goodrich, NE SW SE Sec. 14-5-5. T.D. 2,920 ft.; D.&A.

Washita County

Continental Oil Co. No. 1 Proctor, C NW Sec. 28-10-20w. Drlg. 12,128 ft.
John Koberg No. 1-A Harms, C NW NE Sec. 6-10-16w. Drlg. 5,035 ft.
L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. Drlg. 2,245 ft.

SOUTHERN OKLAHOMA

Carter County

Pure Oil Co. No. 1 Noble, NE SE Sec. 35-3s-1e. T.D. 8,500 ft.; P.B. 6,530 ft.; to test Tulip Crk. zone.

Choctaw County

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. T.D. 1,480 ft.; U.R. 8¼-in. csg.

Marshall County

Hughes et al No. 1 Vittitto, C NE SE Sec. 11-5s-4e. O.W.D.D.; O.T.D. 7,100 ft.; T.D. 7,110 ft.; S.D.

Tillman County

Oil Inv. No. 2 Hammell, NE NW NW Sec. 6-5s-15w. O.W.D.D.; O.T.D. 2,829 ft.; T.D. 3,353 ft.; S.D.

ARKANSAS

Columbia County

Ark. Fuel Oil Co. No. 1 Glasgow-Crisp, 603 ft. N, 605 ft. W, SE cor. NE SW Sec. 23-17-20. Drlg. sh. 75 ft.
Atlantic Ref. Co. No. 1 J. A. Foster, C NW NE Sec. 24-17-20. T.D. 4,026 ft.; crooked hole; P.B. 3,450 ft.
Atlantic Ref. Co. No. 1-E Garrett, C SE NW Sec. 24-17-20. T.D. 7,640 ft.; set 5½-in. csg. 7,138 ft.; drld. out plug to 7,640 ft.; stk. lnr.; attempting to pull.
Atlantic Ref. Co. No. 1 Pine Woods Lbr. Co., C NE NE Sec. 16-18-22. Drlg. 1,-875 ft.
Lion Oil Ref. Co. No. 1 A. C. Garrett, C SE SE Sec. 13-17-20. T. Bknr. 7,362 ft.; T. Rynlds. L. 7,478 ft.; set csg.; W.O.C. 7,639 ft.
Lion Oil Ref. Co. No. 1 Tissue, C SW NW Sec. 15-18-19. Drlg. 3,283 ft.
Phillips Pet. Co. No. 1 J. A. Joiner, C SE NE Sec. 22-17-20. Drlg. 1,510 ft.
Phillips Pet. Co. No. 1 L. A. Longino, C SW SE Sec. 15-17-20. Drlg. 3,065 ft.
Placid Oil Co. No. 1 R. A. Couch, C NW NW Sec. 19-17-19. Set 10¾-in. csg. 2,-215 ft.; W.O.C.
Shell Pet. Corp. No. 1 Foster, SW SW Sec. 24-17-20. Spd.
Shell Pet. Corp. No. 1 Peoples Bnk. of Columbia, C NW SW Sec. 24-17-20. Drlg. 1,946 ft.
Southwood Oil Co. No. 1 J. A. Foster, C NE NE Sec. 24-17-20. Drlg. 4,753 ft.
Southwood Oil Co. No. 1 L. A. Grelling, C NE NW Sec. 23-17-20. T.D. 7,489 ft.; D.S. stk.; P.B. 6,720 ft.; circ. with oil; could not pull D.S.; P.B. 2,400 ft.; drld. to 2,770 ft.; lost circ.; P.B. 2,352 ft.; to sdtrk.; drlg. rd.&grn. sh. 6,900 ft.
Standard Oil Co. of La. No. 1-B E. D. Harris et al, 660 ft. N, 664 ft. W, SE cor. SE NE Sec. 15-17-19. T. Bknr. 7,-267 ft.; T. Smack. L. 7,373 ft.; 6-in. csg. 7,452 ft.; W.O.C.
Standard Oil Co. of La. No. 2 Phillips, 660 ft. S, 665 ft. W, NE cor. NE NW Sec. 15-17-19. T. Bknr. 7,230 ft.; T.L. 7,359 ft.; set 6-in. csg. 7,412 ft.; T.D. 7,412 ft.
G. H. Vaughn No. 1 D. B. Baker Unit, C SW SW Sec. 14-17-20. T. por. 7,411 ft.; set 7-in. csg. 7,590 ft.; T.D. 7,-610 ft.
G. H. Vaughn No. 2 Baker, C NE SE Sec. 15-17-20. Spd.
G. H. Vaughn et al No. 1 J. Jones, C NE NE Sec. 21-17-20. Set 10¾-in. csg. 2,-200 ft.; W.O.C.

Craighead County

Tannark, Inc., No. 1 R. M. Martin, Sec. 35-14-3e. Drlg. hd. L. 2,093 ft.

Lafayette County

East Texas Ref. Co. and Erwin & Leach No. 1 H. D. Scruggs, C N½ NW SW Sec. 23-16-24. Set 15½-in. csg.; W.O.C.
Erwin & Leach and East Texas Ref. Co. No. 1 Harleston, Sec. 23-16-24. Drlg. sdy. sh. 2,439 ft.
Erwin & Leach and East Texas Ref. Co. No. 1 Wright, Sec. 24-16-24. S.D. 3,065 ft.; repairs.

Little River County

C. & M. Drlg. Co. No. 1 Strawn, SW cor. SE Sec. 20-10-32. Cd. 1,270-80 ft.; sh.& wtr. sd.; reported S.O. 1,365-70 ft.; 1,542-64 ft. sd. and 1,564-74 ft. sdy. L.; cor. T.D. 1,598 ft.; set 7-in. csg. 1,590 ft. (cor.); T.D. 1,598 ft.; S.D.; W.O. D.S.

Lonoke County

J. F. Russell No. 1 J. T. Gunter, 440 ft. N, 577 ft. W, SE cor. Sec. 17-5n-10w. S.D. 2,009 ft.

Miller County

W. C. Feazel No. 1 Westbrook, C SW SW Sec. 1-20-28. Drlg. 50 ft.
J. K. Wadley et al No. 1 Jacobs Est., 330 ft. NW cor. NE SE Sec. 33-18-26. Lost returns 95 ft.

Nevada County

Benedum & Trees Oil Co. No. 11 Groves Ld. & Tbr. Co., 150 ft. N, 330 ft. E, SW cor. NW NW NW Sec. 10-14-20. Set 10-in. 80 ft.; drlg. gr. sh. 1,169 ft.
Berry Asphalt Co. No. 1 Groves Lbr. & Tbr. Co., SE cor. N SW Sec. 4-14-20. Drlg. plug; est. 1,000 ft. F.I.H.; W.O. pmp. unit 2,122 ft.

Ouachita County

J. E. Crosbie, Inc., No. 2 F. A. Laney, Sec. 36-15-16. Stk. 5¼-in. 2,777 ft.; set 966 ft. at 2,777 ft.; W.O.C.; T.D. 2,-832 ft.
Phillips Pet. Co. No. 1 J. D. Reynolds, 330 ft. SE cor. SE NW Sec. 27-15-15. O.W.W.O.; O.T.D. 4,926 ft.; comp. as disc. well, Snow Hill field; perf. csg. 2,732-35½ ft., 2,728-31½ ft., 2,744-47½ ft., and 2,756-60 ft.; est. 2,300 ft. F.I. H., 1% oil; P.B. 2,770 ft.; set cmt. retainer 2,719 ft.; sqzd.; S.D.; W.O. 2,-746 ft.

Saline County

A. W. Givens No. 1 Williams, 375 ft. S, 420 ft. E, NW cor. NE NE Sec. 18-3s-15w. R.U.&S.D. 104 ft.

Sevier County

R. A. McArthur No. 1 Bell Est., SE cor. SE SW Sec. 29-9s-32w. S.D. 20 ft.

Union County—Schuler

E. M. Jones No. 1-C Murphy Ld. Co., Sec. 24-18-18. Drlg. rd.&gr. sh. 6,262 ft.
Lion Oil Ref. Co. No. 2 Clay, 330 ft. N, 660 ft. W, SE cor. NE SW Sec. 12-18-18. Drlg. 825 ft.
Lion Oil Ref. Co. No. 1 S. Frank, C S½ SW NE Sec. 12-18-18. R.U.
Lion Oil Ref. Co. No. 1 S. John, SE cor. SE NE Sec. 12-18-18. Drlg. 2,807 ft.
Marine Oil Co. No. 7 fee, 330 ft. SE cor. NE NE Sec. 20-18-17. Drlg. rd. sdy. sh. 7,170 ft.
Phillips Pet. Co. No. 1 Mill, NW cor. S½ Lot 4, SW Sec. 18-18-17. Drlg. rd.&gr. sh. 5,312 ft.

Union County—Other

S. S. Alexander No. 1 J. P. Pickering, C NW NW SW Sec. 31-16-15. Cd. 2,151-52 ft.; soft por. sat. sd., salty taste; D.S.T. showed S.W.; S.D. 2,152 ft.; W.O.
Bob Milam No. 1 Primm Est., SE cor. Lot 5, NE Sec. 1-16-16. S.D. 1,012 ft.
V. R. Sims et al No. 1 J. A. Kelly, 330 ft. SW cor., NW SW Sec. 9-17-14. Cd. 2,171-85 ft.; S.O.&G.; drlg. 2,350 ft.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

Ark. La. Gas Co. No. 2 Gayoso, 660 ft. SW cor. SE Sec. 14-16-10. T. Tr. Pk. 5,432 ft.; D.S.T. 5,796-5,805 ft. tstd. dry in 26 min.; set 8⅝-in. csg. 6,300 ft.; T.D. 8,319 ft.; set csg.; per. 8,285-8,314 ft.; flwd. est. 2,000,000 cu. ft. gas and sprayed S.W.; acdzd. with 6,000 gal. and tstd. est. 4,000,000 cu. ft. gas and spray S.W.; perf. 8,110-70 ft. and 8,-306-12 ft.; flwg. est. 4,000,000 cu. ft. gas.
Ark. La. Gas Co. No. 1 Thomas, NW cor. Sec. 13-16-10. Drlg. sh.&L. 4,759 ft.
Ark. La. Gas Co. No. 1-B Thomas et al, SE cor. Sec. 15-16-10. Drlg. sh.&sd. 4,-029 ft.
Hunt Oil Co. No. 1 T. A. Loe, C NE Sec. 2-16-6. Set 13⅜-in. csg. 342 ft.

Bossier Parish

Harry Hanbury No. 1 Leonard, 660 ft. NE cor. Sec. 19-19-13. Set 16-in. csg. 127 ft.; set 10-in. csg. 1,391 ft.; drlg. L.&sh. 5,802 ft.
H. M. Harrell et al No. 1 Thompson Unit, 70 ft. NW, C SE Sec. 20-17-11. R.U.

Caddo Parish

Ballow & Williams No. 1 Crystal fee, SE cor. NE SW Sec. 24-21-16. Set 6-in. csg. 975 ft.; W.O.S.R. 981 ft.
T. L. Benson No. 1 Ark. Fuel, NW cor. SE SW Sec. 25-21-15. T.D. 2,295 ft.; S.D.; W.O.
Carney et al No. 3 Hart, SE NW Sec. 21-21-16. T.D. 2,423 ft.; tstd. S.W. 2,-423 ft.; P.B. 2,380 ft.; tstd. dry 2,380 ft.; S.D.; W.O.
Cryer & Davis No. 2 Crystal fee, Sec. 25-21-16. T.D. 2,298 ft.; W.O.
Drillers, Inc., No. 1 Ellerbe, SW cor. Sec. 23-18-14. Set 5½-in. csg. 5,554 ft.; acdzd. with 3,500 gal. and tstd. 1,500 ft. O.I.H.; S.D.; W.O. 5,560 ft.
J. T. Driscoll No. 1 Woolworth, SE cor. Sec. 26-20-15. Set 9⅝-in. csg. 1,370 ft.; T.D. 5,607 ft.; set 5½-in. csg. 5,602 ft.; T. Pett. L. 5,604 ft.; W.O. tbg.
East Texas Ref. Co. No. 1 North Cent. Tex. Oil Co., SE cor. SW Sec. 4-23-15. Drlg. 900 ft.
East Texas Ref. Co. No. 1 Pill, SW cor. SE NW Sec. 4-23-15. R.U.
M. M. Ferrell No. 1 Satterwhite, SE NW Sec. 10-20-16. Set 6-in. csg. 1,335 ft.; tstd. S.W.; S.O. 1,580 ft.; acdzd. with 3,000 gal.; tstd. S.W.; S.O.; S.D. 2,010 ft.; rng. 4½-in. csg. 2,263 ft.
Hamilton & Stone No. 1 Atlanta, 500 ft. S, 244 ft. W, NE cor. NW Sec. 2-20-16. Drlg. sh. 1,036 ft.
Lisbon Iberia Oil Co. No. 1 Atkins, Sec. 2-17-14. Set 9⅝-in. csg. 1,508 ft.; W. O.C.
C. C. Lowery No. 1 Ledbetter, Sec. 7-20-15. Set 10-in. csg. 60 ft.; W.O.C.
Midfield Oil Co. No. 2-B Musiow, 2,318 ft. S, 1,719 ft. E, NW cor. Sec. 6-20-15. Drlg. sh. 2,100 ft.
Natal Oil Co. No. 5 Stiles, 400 ft. NE cor. NW NW Sec. 27-21-16. Set 7-in. csg. 1,020 ft.; W.O.C.
J. Ober & Sons No. 2 fee, 920 ft. N, 200 ft. W, C Sec. 36-2-16. Drlg. 150 ft.
Harry Schulman No. 1-B Browning, 990 ft. S, 320 ft. W, NE cor. SE Sec. 21-22-16. S.D. 2,085 ft.; wtr.
Seymour Oil Co. No. 1 Hughes et al, 330 ft. NE cor. NW Sec. 15-20-15. Set 10-in. csg. 60 ft.; W.O.C.
Stanolind O. & G. Co. No. 1, 131 Dillon Hrs., C SE NE Sec. 14-21-15. M.I.M.
Joe Strahan No. 2 Hart, 1,208 ft. N, 320 ft. E, SW cor. Sec. 29-21-16. R.U.
Joe Straughn No. 1 Stiles, SW cor. Sec. 29-21-16. Cg. 1,047 ft.
Tippett Oil Co. No. 1 T. Bell, 330 ft. SW cor. NE Sec. 34-22-16. R.U.
Wardell Oil Co. and Harry Fotiades No. 1 R. Mandel, Sec. 26-18-14. Set 9⅝-in. csg. 1,363 ft.; drlg. sh.&L. 3,213 ft.
R. W. Williams No. 3 Ark. Fuel Oil Co., 330 ft. NW cor. NW SW Sec. 25-21-16. Set 5-in. csg. 2,277 ft.; T.D. 2,335 ft.

Caldwell Parish

Critchett & Woods (formerly E. T. Oakes) No. 1 Kyles, NE cor. SW NE Sec. 18-11-3e. Cg. 1,700 ft.

Catahoula Parish

Ross Morel et al No. 1 Ballard Est., 330 ft. SE cor. SE SW Sec. 8-9n-7e. R.U.

Claiborne Parish

Maritsky & Bibby No. 3 McClung, SW Sec. 29-21-7. Set 6-in. csg. 1,316 ft.; T.D. 1,450 ft.
E. T. Oakes No. 1 Ford, C SW NE Sec. 29-21-5. R.U.

De Soto Parish

Atlantic Ref. Co. and Seaboard Oil Corp. No. 1 Frank Grocery Co., NW Sec. 35-12-11. Set 8-in. csg. 101 ft.
Daniel Murray No. 1 Russell, 50 ft. N, 500 ft. W, SE cor. NE NW Sec. 12-11-16, O.W.D.D.; O.T.D. 2,046 ft.; T.D. 2,-166 ft.; cond. mud.

Grant Parish

C. M. Bowers No. 1 Morrison, 2,740 ft. N, 3,040 ft. W, SE cor. Sec. 34-9n-1w. Set 10-in. 80 ft.

La Salle Parish

Snow Black Oil Co. No. 1 Pendarvis, 250 ft. NE cor. SW SE Sec. 21-10-1e. S.D. 1,350 ft.
Snow Black Oil Co. No. 2 Tullos, SW cor. SE Sec. 23-10-1e. R.U.
G. W. Ziegen No. 16 La. Cent. Lbr. Co., SW cor. Sec. 24-11-2e. T. Wlx. 1,619 ft.; S.W.; S.D.; W.O. 1,690 ft.

Natchitoches Parish

Jack Lent No. 1 Walker, C NE NE Sec. 9-10-10. R.U.
Jack Lent et al No. 1 Whatley, SW cor. Sec. 17-10-10. S.O.&G. reported at 1,-490-1,516 ft.; D.S.T. 3,282-96 ft.; tstd. 100 ft. mud cut with 40-grv. oil; P.B. 3,300 ft.; set 6⅝-in. csg. 3,282 ft.; bld. down 600 ft. of btm.; S.S.O.; ran 2-in. tbg. and lnr. and tstd. S.O.&S.W.; T. tbg. and lnr. and tstd. S.O.&S.W.; pmpd. S.O. and much S.W.; pmpd. off approx. 10 B.O.; did not shoot with nitro; bailing; S.O.&wtr.; T.D. 330 ft.; S.D.; W.O.

Sabine Parish

Geo. Ellis No. 1 Walker, 500 ft. NW cor. NW SE Sec. 8-4-12. Set 12½-in. csg. 276 ft.; reported S.O. 2,180 ft. and 2,263-65 ft.; rng. csg. 2,269 ft.; cd. sdy. sh. 2,265-69 ft.; set 7-in. csg. 2,250 ft.; drld. plug; T.D. 2,271 ft.; tstd. S.W.; W.O.
Potter et al No. 1 Ebarb, NE cor. SE Sec. 4-7-13. Set 6-in. csg. 2,038 ft.
W. M. Quick No. 1 Sabine, SE cor. NE NE Sec. 8-7-13. Set 6-in. csg. 2,021 ft.; rng. tbg.
Reeves & Stoma No. 1 Ezernack, 660 ft. S, 330 ft. W, NE cor. NE NW Sec. 8-7-13. T.D. 2,063 ft.; heading; W.O. pmp.
H. M. Sneed No. 1 Leone, SW cor. NW SE Sec. 8-7-13. T.D. 1,962 ft.; S.D.; repair.
A. Tillman No. 1 Ritter, 400 ft. NE cor. SE SW Sec. 26-8-12. 10-in. csg. 60 ft.
J. A. Williams No. 1 Long Bell Lbr. Co., 250 ft. S, 550 ft. W, C Sec. 33-8-14. Spd. in.

Tensas Parish

Continental Oil Co. No. 1 Cammack, 1,-690 ft. S, 330 ft. W, NE cor. Sec. 31-13-12e. R.U.

Union Parish

Standard Oil Co. of La. and Joe Modisett No. 1-B Frost Lbr. Ind., Sec. 14-23n-2w. Began cg. 8,332 ft.; cg. rd. sh. strks. of dolo. 8,585 ft.

Webster Parish

Geo. Barham No. 1 A. J. Hodges, 1,916 ft. N, 728 ft. E, SW cor. Sec. 23-21-10. Drlg. sh. 927 ft.
Hunt Oil Co. No. 30 Hope, 100 ft. W, C NE SW Sec. 30-21-10. Drlg. sh.&L. 5,-193 ft.
Hunt Oil Co. and Magnolia Pet. Co. No. 1 Gray-Cox, SW cor. Sec. 19-21-9. Drlg. sh.&L. 6,579 ft.
Hunt Oil Co. No. 1 Miller, 100 ft. N, C NW NE Sec. 4-20-10. "D" sd. 8,504-33 ft. (oil); Bdcw. sd. 8,597-8,616 ft. (gas); 8,616-20 ft. sh., 8,620-48 ft. (gas); Davis sd. 8,842-60 ft.; cd. 8,844-49 ft.; S. S.O. 8,866-82 ft., gas sd.; drlg. sdy. sh. 8,920 ft.
Hunt Oil Co. No. 1 Stewart, NW SE Sec. 32-21-10. Set 9⅝-in. 5,672 ft.; drlg. sh.&L. 7,637 ft.
Magnolia Pet. Co. No. 1 Roseberry Unit, 20 ft. N and W, C SE Sec. 29-23-9. Used 750 gal. acd. and flwd. and swbd. 83 B.P.D.; T.D. 9,250 ft.; O.T.D. 9,380 ft.; flwd. 31 bbls. in 5½ hrs.; 8 heads; through 1-in. ck.; pulled 2⅛-in. tbg. and ran 2-in. tbg.; flwd. 50 B.P. D. by heads; went in to shoot with 65 qts. nitro at 9,250 ft.; went off at 8,-350 ft.; C.O. hole; T.D. 9,250 ft.; P.B.

8,318 ft. and perf. Bodcw. sd. 8,292-6,030 ft.; rng. directional drlg. unit.
Ohio Oil Co. No. 6 Bodcaw, Acct. 4, 660 ft. NE cor. NW Sec. 13-21-10. Set 13⅜-in. csg. 690 ft.
Union Prod. Co. No. 1 Walker Unit, 50 ft. S, C SE Sec. 30-18-8. Set 9⅝-in. csg. 6,490 ft.; T. Pettit 6,665 ft.; T. Tr. Pk. 6,910 ft.; drlg. hd. sd.&sh. 10,042 ft.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 Alfred Boudoin, Sec. 58-12s-3e. Drlg. sh. 1,270 ft.
Continental Oil Co. No. 1 David Meaux, Sec. 9-12s-3e. Loc.
Continental Oil Co. No. 1 Franciol, Sec. 67-12s-3e. Drk.
Continental Oil Co. No. 1 Lucion Duhon, Sec. 17-12s-3e. Drlg. sh. 10,453 ft.
Stanolind O. & G. Co. No. 1 Blanchet, Sec. 67-12s-3e. T.D. 8,009 ft.

Bancroft—Beauregard Parish

Republic Prod. Co. No. 8 Columbia Ld. & Tbr. Co., Sec. 15-6s-13w. T.D. 7,336 ft.; 5½-in. csg. 7,328 ft.
Republic Prod. Co. No. 1 Hennigan, Sec. 15-6s-13w. Drlg. sh.&sd. 1,160 ft.
Republic Prod. Co. No. 4 Lutcher Moore Lbr. Co., Sec. 16-6s-13w. W.O. rig.
Republic Prod. Co. No. 7 Lutcher Moore, Sec. 14-6s-13w. T.D. 7,375 ft.

Bateman Lake—St. Mary Parish

Texas Co. No. 2 State-Bateman Lake, Sec. 21-16s-12e. 13⅜-in. csg. 1,700 ft.; T.D. 9,453 ft.; sdtrkd. 6,880 ft.; drld. into old hole; P.B. 6,580 ft.; sdtrkd.; drlg. sh. 7,020 ft.

Baton Rouge—East Baton Rouge Parish

W. V. Bowles No. 1 Richard Community, Sec. 46-7s-1e. Spd.
Geo. Echols No. 1 Evans Duplantier, Sec. 68-7s-1w. Drlg. 4,036 ft.
Guaranty Oil Co. No. 1 D. J. Morgan. 9⅝-in. csg. 1,169 ft.; T.D. 3,708 ft.; P. B. to 2,065 ft. to strghtn. hole; sdtrkd.; T.D. 6,539 ft.; P.B. to sdtrk.
Geo. Helis et al No. 1 Haase Community, Sec. 64-7s-1e. Drlg. 4,312 ft.
Wm. Helis No. 1-D Duplantier, Sec. 66-7s-1w. R.U.
Lisbon-Iberia Oil Co. No. 2 Duplantier, Sec. 66-7s-1e. R.U.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 3-B State-Bay, Sec. 13-22s-17e. Drlg. sh. 7,210 ft.
Texas Co. No. 19 State-Bay St. Elaine, Sec. 18-22s-18e. Loc.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 11 Wilberts, Sec. 67-9s-11e. Loc.

Bayou des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 4 St. Charles Ld. Co., Sec. 13-15s-2e. Loc.

De Large—Terrebonne Parish

Fohs Oil Co. No. 1 Buckley-Mahler, Sec. 25-19s-16e. 13⅜-in. csg. 3,380 ft.; T.D. 10,211 ft.; 9⅝-in. csg. 10,058 ft.; drlg. sh. 10,886 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 1-B State-Caillou Island, Sec. 19-23s-20e. T.D. 5,522 ft.; run csg. no report.
Texas Co. No. 29 State, Sec. 17-23s-20e Rig.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 26 Sch. Ld., Sec. 16-14s-13w. T.D. 2,465 ft.; 13⅜-in. csg. 2,465 ft.; T.D. 6,564 ft.; P.B. sdtrkd.; T. salt 8,059 ft.; T.D. 8,065 ft.; P.B. to 2,485 ft.; sdtrkd.; drlg. sh. &L. 6,303 ft.
Magnolia Pet. Co. No. 24 Cameron Meadows Ld. Co., Sec. 21-14s-13w. Drlg. sdy. L. 4,433 ft.

Chacahoula—La Fourche Parish

Sun Oil Co. No. 1 Cypress, Sec. 75-15s-15e. Dredge canal.
Sun Oil Co. No. 4 Delbert Stark and Brown Cypress Co., Sec. 70-15s-15e T.D. 7,794 ft.; P.B. 6,764 ft.; sdtrkd.; T.D. 8,268 ft.; stk. D.S.; shot at 8,195 ft.; P.B. 7,642 ft.; sdtrkd. 7,642 ft.; T D. 8,260 ft.; 9⅝-in. csg. 8,260 ft.; T.D. 8,292 ft.; cleaned hole; found csg. collapsed; recmtd. csg.; rmg. 7,176 ft.; found leak in csg.; recmtd.; P.B. 7,969 ft.; sdtrkd.; drlg. sh. 8,036 ft.

Chalkley Field—Cameron Parish

Humble O. & R. Co. No. 2 Sweet Lake Ld. & Oil Co., Sec. 8-12s-6w. T.D. 8,614 ft.; 7-in. csg. 8,608 ft.; P.B. 8,454 ft.; perf. csg. 8,437-47 ft.; I.P. 4 bbl. dist. per day; 8/64-in. ck.
Shell Pet. Corp. No. 1-A Katherine Bel Hanzen, Sec. 15-12s-6w. T.D. 9,500 ft.; perf. csg. 9,050-55 ft.; made sqze. job; W.O.C.

Charenton—St. Mary Parish

Commerce Oil Co. No. 1 T. Brulation, Sec. 19-13s-10e. T.D. 8,509 ft.; run 7-in. csg.
Pan American Prod. Co. No. 1 Achee, Sec. 21-13s-9e. Loc.
Pan American Prod. Co. No. 13 Laws Realty Co., Sec. 30-13s-10e. T.D. 7,212 ft.; 5½-in. csg. 7,213 ft.; perf. csg. 7,-163-70 ft.; tstd. S.W.
Pan American Prod. Co. No. 14 Laws Realty Co., Sec. 30-13s-10e. T.D. 7,405 ft.; P.B. 6,950 ft.; sdtrkd.; T.D. 7,545 ft.; fsg.
Pan American Prod. Co. No. 5 South Coast, Sec. 30-13s-10e. Drlg. sh. 7,220 ft.
Pan American Prod. Co. No. 14 Veeder, Sec. 11-13s-9e. T.D. 3,020 ft.; P.B. 1,053 ft.; sdtrkd.; drlg. sd. 1,048 ft.

Cheneyville—Rapides Parish

Gulf Oil Corp. No. 1 M. B. Pope, Sec. 4-1s-2e. R.U.
Texas Canadian Oil Co. No. 1 Mathis, Sec. 4-1s-2e. Drlg. sd.&sh. 850 ft.

Convent—St. James Parish

Continental Oil Co. No. 2 Realty Operators, Inc., Sec. 16. 13⅜-in. csg. 1,492 ft.; T.D. 7,889 ft.; P.B. 7,275 ft.; sdtrkd. 7,305 ft.; T.D. 8,235 ft.; well blew out; caught fire; cleaned hole to 4,866 ft.; P.B. 2,502 ft.; sdtrkd.; T.D. 7,967 ft.

Creole—Cameron Parish

Superior Oil Co. No. 6 State-Gulf of Mexico. T.D. 5,986 ft.; P.B.; sdtrkd.; T.D. 7,200 ft.; P.B.; sdtrkd. 1,175 ft.; T.D. 6,827 ft.; stk. 5½-in. csg. 6,794 ft.; W. O.C.

Darrow—Ascension Parish

Humble O. & R. Co. No. 22 Community, Sec. 32-10s-2e. R.U.
Humble O. & R. Co. No. 5 Landry, Sec. 34-10s-2e. Drk.
Kiva Oil Co. No. 1 Duplessis, Sec. 69-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 9 State, Sec. 5-22s-16e. Drlg. sh.&L. 7,410 ft.

Eola—Avoyelles Parish

Amerada Pet. Corp. No. 1 Avoyelles Bnk. & Tr. Co., Sec. 5-2s-3e. Drk.
Amerada Pet. Corp. No. 1 Mrs. C. B. Machine, Sec. 6-2s-3e. T. brkn. sd. 8,-489 ft.; cg. 8,524 ft.; S.O.
Amerada Pet. Corp. No. 2 Mrs. C. B. Machine, Sec. 6-2s-3e. Loc.
Amerada Pet. Corp. No. 1 Merchants & Planters Bnk., Sec. 41-1s-3e. Loc.
Amerada Pet. Corp. No. 1 Robert Irion, Sur., Sec. 6-2s-3e. Loc.
Gulf Expln. Co. No. 1 Samuel Haas Est., Sec. 8-2s-3e. T.D. 7,006 ft.; P.B. 6,450 ft.; crooked hole; sdtrkd.; drlg. sh. 7,-080 ft.
Sid Richardson No. 5 Haas Inv. Co., Sec. 5-2s-3e. Drlg. sh. 6,615 ft.
Sid Richardson No. 1 S. S. Pierce, Sec. 6-2s-3e. Drlg. sh. 5,914 ft.
Sid Richardson No. 1 State Bayou, Sec. 7-7s-2e. T.D. 8,547 ft.; 5½-in. csg. 8,-546 ft.; oil sd. 8,430-8,533 ft.
Sid Richardson No. 2 State Bayou Boenf, Sec. 7-2s-3e. Drk.

Garden Island—Plaquemines Parish

Texas Co. No. 34 State, Sec. 38-23s-33e. Drlg. sh. 2,630 ft.

Gibson—Terrebonne Parish

Shell Pet. Corp. No. 3 R.E.K., Sec. 40-17s-15e. T.D. 10,200 ft.; P.B. 8,657 ft.; perf. csg. 8,639-42 ft.; tstd. 500 lb. press.; flwg. gas and dist.

Gillis—Calcasieu Parish

Union Sulphur Co. No. 8 Kaufman, Sec. 7-9s-8w. T.D. 7,956 ft.; sdtrkd.; T.D. 6,-957 ft.; 5-in. csg. 6,949 ft.; drld. out 6,957 ft.; swbd. oil; well went dead; swbg.

Golden Meadows—La Fourche Parish

Geo. Lilly et al No. 1 Jack Collins, Sec. 12-19s-22e. Drlg. sh. 4,617 ft.
M. H. Marr and G. H. Vaughn No. 1 B. & D. Unit, Sec. 12-19s-22e. 10¾-in. csg. 2,301 ft.; drlg. 3,620 ft.
Martex Pet. Corp. No. 1 Falgout Holding Co., Inc., Sec. 9-19s-22e. Cd. sh.& sd.; O.S. 2,636-45 ft. and oil sd. 2,645-54 ft.; drlg. sh. 7,295 ft.; rec. 36 stands 42-gr. oil; D.S.T. 7,121-7,202 ft. cd. oil sd. 7,919-64 ft.; cd. S.W. sd. 7,-965 ft.; run 7-in. csg.; T.D. 8,524 ft. (corrected); 7-in. csg. 8,524 ft.; perf. csg. 8,163-75 ft.; dropped tbg. in hole; fsg.; P.B. 7,975 ft.; perf. csg. 7,925-55 ft.; 120 holes; I.P. 250 B.P.D.; ¼-in. ck.; gr. 39.5; well began making sd.; killed to W.O.
Martex Pet. Corp. No. 2 Falgout Holding Co., Sec. 9-19s-22e. Loc.
Texas Co. No. 2 State-Catfish Lake, Sec. 3-20s-21e. Loc.
Texas Co. No. 3 State-Catfish Lake, Sec. 76-19s-21e. Loc.

Grand Bay—Plaquemines Parish

Gulf Oil Corp. No. 4 Grand Prairie Lve. Dist., Sec. 48-20s-18e. Drlg. sh. 8,800 ft.
Gulf Oil Corp. No. 6-A Grand Prairie Lv. Dist., Sec. 17-20s-19e. Dredge canal.
Gulf Oil Corp. No. 2 State, Sec. 6-20s-19e. T.D. 9,071 ft.; run 9⅝-in. csg.

Grand Lake—Cameron Parish

Superior Oil Co. No. 2 State, Twp. 13s-4w. R.U.

Hackberry—Cameron Parish

Gulf Oil Corp. No. 25-A Erwin, Sec. 13-12s-10w. Drk.
Stanolind O. & G. Co. No. 28-A Gulf fee, Sec. 30-12s-10w. Drlg. sd.&L. 5,176 ft.
Superior Oil Co. No. 1 Kaough, Sec. 31-12s-10w. T.D. 7,529 ft.; sdtrkd.; drlg. sd.&sh. 7,035 ft.
Texas Co. No. 26 State, Twp. 12s-9w. Drlg. sh.&L. 5,826 ft.
Union Sulphur Co. No. 9 Caldwell, Sec. 37-2s-10w. Drlg. sh. 6,524 ft.
Union Sulphur Co. No. 12 Doiron, Sec. 37-12s-10w. T.D. 8,064 ft.; P.B.; sdtrkd.; drlg. sh. 4,609 ft.
Union Sulphur Co. No. 13 Doiron, Sec. 27-12s-10w. S.D. 5,221 ft.; abd.
Union Sulphur Co. No. 1 Josephine O'Quinn, Sec. 37-12s-10w. T.D. 6,927 ft.; sdtrkd.; 7-in. csg. 8,014 ft.; T.D. 8,237 ft.; T.S. 8,220 ft.; tstd. S.W.; pulling screen.

Horseshoe Bayou

Texas Co. No. 2 St. Mary Parish Ld. Co., Sec. 37-17s-9e. Drlg. sh. 8,873 ft.

Jefferson Island—Iberia Parish

Phillips Pet. Co. No. 1 Breaux, Sec. 41-12s-5e. Drlg. sh.&L. 5,770 ft.
Texas Co. No. 2 Jefferson Island, Sec. 58-12-5e. 18⅝-in. csg. 40 ft.; 7⅝-in. csg. 8,451 ft.; T. salt 9,444 ft.; T.D. 9,458 ft.; perf. csg. 8,682-92 ft.; making 90 bbls. net oil, 227 bbls. S.W.; ½-in. ck.; P.B. 8,700 ft.; perf. csg. 8,-682-92 ft.; flwd. oil and S.W.; made sqze. job; perf. csg. 7,815-26 ft.; tstd. gas and dist.
Texas Co. No. 2 State-Lake Peigneur, Twp. 12s-5w. T. salt 7,419 ft.; T.D. 7,-437 ft.; P.B. 6,292 ft.; P.B. and sidetracked; drlg. sh. 7,112 ft.

Jennings—Acadia Parish

Glassell & Glassell No. 7 McFarlain, Sec. 41-9s-2w. 6-in. csg. 8,567 ft.; perf. csg. 7,525-80 ft.; tstg.
Gulf Oil Corp. No. 41 Arnaudet, Sec. 47-9s-2w. 9⅝-in. csg. 4,557 ft.; drlg. sh. 6,823 ft.
Port City Oil Co. No. 24 Jennings Haywood, Sec. 41-9s-2w. T.D. 2,832 ft.; 5-in. csg. 2,832 ft.
St. Mary Oil Co. No. 1 Gulf fee, Sec. 45-9s-2w. R.U.
Shell Oil Co., Inc., No. 7 Conover, Sec. 40-9s-2w. Drlg. sdy. sh. 2,615 ft.
Stanolind O. & G. Co. No. 114 Crowley Oil & Mineral Co., Sec. 48-9s-2w. T.D. 3,755 ft.; P.B. 1,293 ft.; P.B. 1,900 ft.; sdtrkd.; T.D. 4,581 ft.; 10¾-in. csg. 4,-578 ft.

Lafitte—Jefferson Parish

Texas Co. No. 2 Sch. Bd., Sec. 20-17s-24e. T.D. 6,601 ft.; sdtrkd. 6,375 ft.; went back into old hole; trying to sdtrk. at 6,387 ft.; drlg. sh. 9,310 ft.
Texas Co. No. 2 State-Bayou Norman, Sec. 21-17s-24e. 10¾-in. csg. 1,942 ft. drlg. 9,004 ft.

Lake Barre—Terrebonne Parish

Texas Co. No. 43 State, Sec. 30-21s-20e. T.D. 4,122 ft.; P.B.; sdtrkd.; drlg. sh. 4,527 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 10 La Fourche Basin Levee Dist., Sec. 2-18-25e. No report.

Lake Long—La Fourche Parish

Fohs Oil Co. No. 8 State, Sec. 17s-19e. T.D. 9,600 ft.; P.B. 9,034 ft.; sdtrkd. at 9,034 ft.; 7-in. csg. 10,254 ft.

Lake Mongoulois—St. Martin Parish

Texas Co. No. 7 State, Sec. 10-10s-9e. Drlg. sh.&sd. 6,912 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 25 State, Sec. 18-23s-18e. Drlg. sd. 5,212 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 W. E. Mont, Sec. 32-19s-19e. Loc.
Humble O. & R. Co. No. 1 C. P. Smith, Sec. 53-19s-19e. T.D. 11,656 ft.; run electrical survey.
Humble O. & R. Co. No. 2 La Terre Ld. Co., Sec. 32-19s-19e. Loc.

New Iberia—Iberia Parish

Canal Oil Co. No. 12 Bernard, Sec. 54-12s-7e. R.U.
Wm. Helis No. 8 Bolivar, Sec. 56-12s-7e. R.U.
Wm. Helis No. 7 J. E. Schwing, Sec. 56-12s-7e. R.U.
Lisbon-Iberia Oil Corp. No. 7 Gulf fee, Sec. 25-12s-7e. T.D. 5,939 ft.; P.B.; sdtrkd.; T.D. 6,019 ft.; P.B. 3,738 ft.; sdtrkd.; drlg. sd.&sh. 4,499 ft.
Texas Co. No. 2 Bryant, Sec. 25-12s-7e. R.U.
Texas Co. No. 2-A Hanzon, Sec. 54-12s-7e. 7⅝-in. csg. 8,075 ft.; S.D. 8,801 ft.; heaving sh.; P.B. 8,065 ft.; P.B. to sidetrack 7,071 ft.; drlg. sh.&L. 7,758 ft.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 4 H. J. Habetz, Sec. 45-8s-1e. 10¾-in. csg. 2,017 ft.; drlg. sd. 5,712 ft.

North Tepetate—Acadia Parish

St. Mary Oil Co. No. 1 Dr. H. Jenkins, Sec. 12-7s-2w. Drk.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 3 Haas & Hirsch, Sec. 4-6s-5e. Drlg. sd.&sh. 3,-622 ft.
Smith & McDannald No. 1 S. W. Futral, Sec. 20-6s-5e. Drlg. sd.&sh. 4,785 ft.
Y. D. Spill No. 1 Gaudet, Sec. 4-6s-5e. S.D. 4,700 ft.
Western Gulf Prod. Co. No. 1 Watkins, Sec. 4-6s-5e. Drlg. sd.&L. 5,150 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 39 Orleans Lve. Bd., Sec. 13-8s-15e. 16-in. csg. 244 ft.; drlg. sh. 3,620 ft.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp. No. 10 State QQ, Sec. 17-19s-17e. Drlg. sh. 6,020 ft.
Gulf Oil Corp. No. 3-A Orleans Lve. Bd., Sec. 7-19s-17e. Drlg. sh. 8,020 ft.
Gulf Oil Corp. No. 2-A Plaquemines Ld. Co., Sec. 7-19s-17e. 13⅜-in. csg. 1,524 ft.; drlg. sh. 8,212 ft.
Gulf Ref. Co. No. 5 State, Sec. 17-19s-17e. Loc.
Gulf Oil Corp. No. 9 State QQ, Sec. 18-19s-17e. Loc.

Raceland—La Fourche Parish

Amerada Pet. Corp. No. 1 Godchaux Sugars, Inc., Sec 34-15s-19e 18⅝-in. 11,312 ft.; T.A.
Amerada Pet. Corp. No. 4 South Coast Corp., Sec. 34-15s-19e. 18⅝-in. csg. 239 ft.; cg. sd.&sh. 10,200 ft.
Tide Water Asso. Oil Co. No. 2-A South Coast Corp., Sec. 34-15s-19e. Cg. sd.& sh.; no report.

Roanoke—Jeff Davis Parish

Humble O. & R. Co. No. 6 J. W. Devilbiss, Sec. 14-9s-4w. Cd. at 4,195-98½ ft.; T.D. 4,238 ft.; 7-in. csg. 4,237 ft.; perf. csg. 4,201-04 ft.; swbd. S.W.; T.D. 4,925 ft.; abd.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 16 United Ld. Co., Sec. 15-10s-4e. R.U.
Sorrento Synd. No. 1 L. L. Bernard, Sec. 27-10s-4e. R.U.

South Houma—Terrebonne Parish

Shell Pet. Corp. No. 3 Peters. Cg. sh. 9,890 ft.

South Roanoke—Jeff Davis Parish

Continental Oil Co. No. 1 Calcasieu Natl. Bnk., Sec. 36-10s-4w. T.D. 9,684 ft.; washing over D.P.

Valentine—La Fourche Parish

T. G. Markley and Mohawk Oil Corp. No. 1 Deusson Hrs., Sec. 100-17s-20e. T.D. 6,905 ft.; fsg.
Pan American Prod. Co. No. 20 Harang, Sec. 8-17s-20e. T.D. 4,608 ft.; D.S. stk.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co. No. 5 Bureau Lv. Bd., Sec. 23-21s-30e. Drlg. 5,212 ft.
Tide Water Asso. Oil Co. No. 10 Manhattan Ld. & Fruit Co., Sec. 26-21s-30e. Dredge canal.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 2 Fontenot-Ladeau, Sec. 45-3s-2e. T.D. 8,983 ft.; T.S. 8,936 ft.; tstg.
Continental Oil Co. No. 3 Haas, Sec. 44-3s-2e. T.D. 11,000 ft.; test P.B. 9,000 ft.; tstd. S.W. 8,976-86 ft.
Continental Oil Co. No. 3 Ludeau-Haas, Sec. 44-3s-2e. Drlg. sh. 7,614 ft.
Continental Oil Co. No. 2 Orise Deville, Sec. 46-3s-2e. Drlg. sh. 6,906 ft.
Continental Oil Co. No. 3 Orise Deville, Sec. 46-3s-2e. Drk.
Continental Oil Co. No. 3 Tate, Sec. 44-3s-2e. T.D. 9,057 ft.; I.P. 421 B.P.D.; ¾-in. ck.
Texas Co. No. 3 Marman fee, Sec. 45-3s-2e. Cg. sh. 9,767 ft.

Vinton—Calcasieu Parish

N. D. Mayfield et al No. 1 Lyons, Sec. 33-10s-12w. R.U.
R. & R. Oil Co. No. 2 Vincent, Sec. 34-10s-12w. T.D. 2,343 ft.; run 7-in. csg.; no report.

West Lake Verret—St. Mary Parish

Shell Oil Co., Inc., No. 3 Jeanerette Lbr. Co. T.D. 2,326 ft.; fsg.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 5 Calcasieu Natl. Bnk., Sec. 12-9s-6w. Drlg. sd.&sh. 5,-226 ft.
Union Sulphur Co. No. 1 Raymond Hebert, Sec. 6-9s-5w. R.U.
Union Sulphur Co. No. 1 M. F. Johnson, Sec. 12-9s-6w. Drlg. sh. 7,410 ft.
Union Sulphur Co. No. 3 Mrs. O'Miller, Sec. 7-9s-5w. Drk.
Union Sulphur Co. No. 2 Ommon, Sec. 7-9s-5w. T.D. 9,111 ft.; P.B. 5,910 ft.; sdtrkd.; T.D. 9,460 ft.; 5-in. csg. 9,455 ft.; perf. csg. 9,376-93 ft.; tstd. dry gas.

S. LOUISIANA WILDCATS

Acadia Parish

T. T. Tolson et al No. 1 J. Turner, Sec. 25-7s-1e. Drlg. S.W. sd. 7,363 ft.
Tri Parish Drillers, Inc., No. 1 Paul Stag, Sec. 4-7s-1w. M.I. rig.

Allen Parish

Bel Oil Corp. No. 1 J. A. Bel, Sec. 22-6s-3w. Cd. gas sd. 6,257-87 ft.; S.W. sd. 6,287-97 ft.; T.D. 9,010 ft.; run 7-in. csg. 8,595 ft.; perf. csg. 8,549-52 ft.; tstd. 40 lbs. press.; rec. 18 stands S. W., drlg. mud cut with gas and dist. perf. csg. 6,917-19 ft.; tstd. S.W.; P.B. 6,004 ft.; perf. csg. 6,041-50 ft.; rec. 3 stands oil, 15 stands of oil and gas-cut mud showing S.W.; sqzd. perf.; perf. csg. 6,025-36 ft.; tstd. 600 lb. pres.; rec. 4 stands drlg. mud, slight trace of dist.; sqzd. perf.; W.O.C.

Assumption Parish

Shell Oil Co. No. 1 Ellis, Sec. 66-16s-14e. Drlg. 8,000 ft.

Beauregard Parish

Atlantic Ref. Co. No. 1 Lutcher Moore Sec. 22-3s-11w. Loc.
Atlantic Ref. Co. No. 1 Rice Ld. & Lbr Co., Sec. 22-3s-11w. Loc.
Atlantic Ref. Co. No. 1-A Rice Ld. & Lbr. Co., Sec. 22-3s-11w. Drlg. sh. 6,660 ft.
Standard Oil Co. of Calif. No. 1 Long Bell Lbr. Co., Sec. 23-4s-9w. T. Cckfld. 6,949 ft.; 9⅝-in. csg. 7,830 ft.; drlg. sh. &sd. 8,189 ft.

Calcasieu Parish

Humble O. & R. Co. No. 1 Edgewood Ld. & Logging Co., Sec. 32-7s-10w. Drlg. sh. 3,456 ft.

Union Sulphur Co. No. 2 Drew Manuel Training Sch., Sec. 17-10s-11w. Drlg. sh. 3,906 ft.

Cameron Parish

Union Sulphur Co. No. 1 Sweet Lake Ld. Co., Sec. 9-12s-7w. T.D. 9,558 ft.

East Baton Rouge Parish

Danciger O. & R. Co. No. 1 D. E. McInnis, Sec. 58-7s-1e. Bldg. road.

Evangeline Parish

Continental Oil Co. et al No. 1 Mrs. Lillie Manuel, Sec. 33-4s-1w. T. Vicksburg 7,740 ft.; drlg. sh. 9,767 ft.

Iberia Parish

Texas Co. No. 3-B State-Vermilion Bay, Twp. 16s-5e. T. salt 5,970 ft.; B. salt 7,540 ft.; T.D. 7,714 ft.; 9⅝-in. csg. 7,705 ft.; drlg. sh. 9,412 ft.

Iberville Parish

Housh & Thompson No. 1 Kessler & Folse, Sec. 40-11s-13e. Cg. sd. 7,850 ft.

Shell Oil Co., Inc., No. 1 Natalbany Lbr. Co., Sec. 18-9s-2e (tight well). T.D. 10,524 ft.; P.B. 9,100 ft.; perf. csg. 9,060-65 ft.; made sqze. job; W.O.C.

Jeff Davis Parish

R. M. Bleakie et al No. 1 Lack-Moore Co., Ltd., Sec. 29-7s-6w. 13⅜-in. csg. 65 ft.; 9⅝-in. csg. 1,123 ft.

Stanolind O. & G. Co. No. 3-B Ervin & Bishop, Lot 15, Sec. 7-9s-5w. R.U.

Union Sulphur Co. No. 1 H. B. Tietje, Sec. 36-7s-4w. T.D. 9,220 ft.; 7-in. csg. 8,227 ft.; perf. csg. 8,051-65 ft.; swbd. S.W.; pulling. screen and lnr.

La Fourche Parish

Gulf Oil Corp. No. 1 Grandison Ld. Co., Sec. 14-20s-23e. T.D. 8,241 ft.; 9⅝-in. csg. 8,241 ft.; cg. sh.&shils. 10,341 ft.

J. Perry Scranton No. 2 Martinez, Sec. 132-15s-17e. Drlg. sh. 2,736 ft.

Texas Co. No. 1 L.L.&E. Golden Meadows, Sec. 77-19s-21e. 9⅝-in. csg. 10,744 ft.; T.D. 12,526 ft.; P.B. 11,810 ft.; made sqze. job; perf. csg. 10,769-71 ft.; tstd. S.W.; P.B. 10,269 ft.; stk. D.S.; drlg. on junk.

Orleans Parish

W. T. Burton No. 3-B Faubourg de Montluzin, Sec. 1-11s-13e. R.U.

W. T. Buton No. 1 L.&N.R.R., Sec. 18-11s-15e. T.D. 9,000 ft.; 7⅝-in. csg. 8,820 ft.; pmpg. in mud; losing returns.

W. T. Burton No. 3 L.&N.R.R., Sec. 25-11s-14e. Loc.

W. T. Burton No. 2 State-Lake Pontchartrain, Twp. 10s-10e. Loc.

Plaquemines Parish

Gulf Oil Corp. No. 8 State P.P., Sec. 18-23s-31e. Loc.

Texas Co. No. 1 L.L.&E., Bastian Bay, Sec. '43-20s-28e. 9⅝-in. csg. 9,540 ft.; T.D. 10,662 ft.; P.B. 9,900 ft.; sdtrkd. 9,895 ft.; drlg. sh. 11,333 ft.; no report.

Rapides Parish

Gulf States ExplN. Co. No. 1 Jack Cappel, Sec. 37-4n-4w. S.D. 4,537 ft.; T. Wlx. 4,185 ft.

St. Bernard Parish

Carter, Molero & Brian, Sec. 129-14s-14e. Drk.

Gulf Ref. Co. No. 4-State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,161 ft.; T.D. 10,632 ft.; P.B. 9,700 ft.; rmd. to 9,658 ft.; lost core bbl.; P.B. sdtrkd. 8912 ft.; T.D. 10,528 ft.; 7-in csg. 10,494 ft.; fsg.

Vendome Pet. Co. No. 2 Kenilworth Plantation, Sec. 59-13s-14e. Drlg. sh. 2,612 ft.

St. Charles Parish

Texas Co. No. 1 L.L.&E. Paradis, Sec. 39-14s-20e. 9⅝-in. csg. 8,975 ft.; T.D. 10,787 ft.; twisted off D.S.; fsg.; C.O. hole 10,200 ft.; 7-in. csg. 10,177 ft.; perf. csg. 10,060-70 ft.; tstd. gas; sqzd. perf.; perf. csg. 9,840-50 ft.; tstd. 2,000 lb. press.; flwd. est. 5 bbl. dist. per hr.; perf. csg. 9,608-20 ft.; tstd. 2,800 lb. pres.; flwd. 8 to 10 bbl. dist. per hr.; prep. to P.B. 9,580 ft.

St. James Parish

Shell Pet. Corp. No. 1 Shexnayder, Sec. 38-12s-15e. 9⅝-in. csg. 8,534 ft.; T.D. 11,002 ft.; 7-in. csg. 11,002 ft.; P.B. 10,943 ft.; perf. csg. 10,928-40 ft.; flwd. 12 bbls. dist.; 4 hrs.; 11/64-in. ck.; T.P. 4,500 lbs.; C.P. 4,600 lbs.; killed; T.D. 11,314 ft.; P.B. 10,955 ft.; perf. csg. 10,910-15 ft.; flwg. 1 bbl. dist. per hr.; 10/64-in. ck.; T.P. 4,600 lb.; grav. 45.6.

St. Landry Parish

Deep Rock Oil Co. No. 1 B. Babineaux, Sec. 39-8s-4e. R.U.

St. Martin Parish

Texas Co. No. 12 St. Martin, Sec. 21-8s-7e. R.U.; (cor.).

St. Mary Parish

Perry S. Cooney No. 1 A. W. Allain, Sec. 46-13s-9e. Drk.

St. Tammany Parish

Honey Island Dev. Corp. No. 1 W. C. Forbes, Sec. 33-7s-15e. T.D. 100 ft.; 20-in. csg. 87 ft.

Terrebonne Parish

Texas Co. No. 1 Continental Ld. & Fur Co., Sec. 29-18s-14e. O.W.D.D.; T.D. 12,483 ft.; prep. to test 9,765-82 ft.; perf. csg. 9,680 ft.; tstd. S.W. on D.S. T.; P.B. 9,590 ft.; perf. csg. 9,558-70 ft.; tstd. S.W.

Texas Co. No. 2 State-Coon Point, Twp. 23s-14e. 13⅜-in. csg. 1,900 ft.; drlg. sh. 7,124 ft.

Vermilion Parish

La. Ld. & ExplN. Co. No. 1 La. Fur. Co., Sec. 21-15s-1e. Cg. sd. 7,801 ft.

Vernon Parish

W. T. Burton No. 1 W. T. Burton Mineral fee, Sec. 32-1n-6w. Drlg. sh. 3,967 ft.

Nat Hunter et al No. 1 W. T. Burton fee, Sec. 13-2n-5w. Loc.

West Feliciana Parish

McKay et al No. 1 James Montgomery. Loc.

Humble O. & R. Co. No. 4 Hutcheson, Wm. Doble Sur. Drlg. sh. 3,026 ft.

Clinton—Harris County

Stanolind O. & G. Co. No. 2 Edwards, Reels & Trobough Sur. Drk.

Eureka—Harris County

Jack Frazier No. 1 W. T. Helberg, H. Reinerman Sur. R.U.

J. Frazier No. 7 Hogg Bros., J. Reinerman Sur. Drlg. sh. 2,730 ft.

M. G. Hansbro No. 1 Beail, H. Reinerman Sur. Drlg. sh. 4,339 ft.

Houston Oil Co. No. 3 Helberg & Lackner, J. Reinerman Sur. Loc.

Means & McGehee No. 1-F Laura Lackner. Drk.

Tide Water Asso. Oil Co. No. 2-B Lackner, H. Reinerman Sur. Drlg. sh. 3,612 ft.

Fairbanks—Harris County

Stanolind O. & G. Co. No. 3 Jahnke, S. Lewis Sur. T.D. 6,845 ft.; 5½-in. csg. 6,845 ft.

Friendswood—Harris County

Humble O. & R. Co. No. 1-B Godwin, W. K. Smith Sur. Drlg. sh.&L. 4,312 ft.

Humble O. & R. Co. No. 26-B Humble-West, A. Whitlock Sur. Drlg. sh. 5,026 ft.

Humble O. & R. Co. No. 30-B Humble-West, Luke Hemenway Sur. Drlg. sh. 4,496 ft.

Satsuma Field—Harris County

Amerada-Stanolind O. & G. Co. No. 1-A W. S. Jacobs, W.C.R.R. Sur. No. 2. S.D. 6,906 ft.; T.A.

Stanolind O. & G. Co. et al No. 2-A Jacobs, W.C.R.R. Sur. T.D. 6,836 ft.; tstd. dist. 6,822-26 ft.; reperf. csg. 6,798-6,813 ft.; tstd. gas.

Cheek—Jefferson County

Humble O. & R. Co. No. 1-B Steinhagen, Wm. Carr Sur. Drlg. sh. 4,356 ft.

Clam Lake—Jefferson County

Shell Oil Co., Inc., No. 5 McFaddin, T.& N.O. Sur. No. 341. T.D. 4,007 ft.

La Belle—Jefferson County

Sun Oil Co. No. 5 Broussard-Hebert, T. &N.O. Sur. No. 207. 18⅝-in. csg. 130 ft. T.D. 7,650 ft.; cmtd. 9⅝-in. csg. on bttm.; T.D. 9,412 ft.; rmg.

Esperson—Liberty County

General Crude Oil Co. No. 3-B Esperson, A. McNeil Sur. Drlg. sh. 3,930 ft.

Hardin—Liberty County

Gulf Oil Corp. No. 4 Cessna, H. B. Johnston Sur. R.U.

North Markham—Matagorda County

Ohio Oil Co. No. 2 Carlson, I.&G.N. Sur. No. 2, R.U.

Conroe Field—Montgomery County

E. I. Thompson, Tr., No. 1 W. D. Granger, T.&N.O. Sur. No. 14 (Wilcox test SE edge of prod.). 16-in. csg. 82 ft.; 10¾-in. csg. 1,800 ft.

Orange—Orange County

Continental Oil Co. No. 19 Chesson, Wm. Dyson Sur. T.D. 5,613 ft.; perf. csg. 5,596-5,608 ft.; I.P. 181 B.P.D.; 7/32-in. ck.

Gulf Oil Corp. No. 3-B Laflour, Wm. Dyson Sur. Drlg. sh. 5,312 ft.

Gulf Oil Corp. No. 10-A Winfree, Wm. Dyson Sur. Loc.

John Mayo No. 1 M. J. Williams, Dyson Sur. R.U.

Ace—Polk County

Patrick-Tyrell Drlg. Co. No. 1 Kirby-West, P. A. Sublett Sur. T.D. 7,828 ft.; making D.S.T.

Dick Schwab No. 1-C Kirby-West Lbr. Co., G. A. Thomas Sur. Loc.

Shell Pet. Corp. No. 2 Doucett, P. A. Sublett Sur. Loc.

Segno—Polk County

Gulf Oil Corp. No. 4 Quinn, A. Morales Sur. R.U.

Gulf Oil Corp. No. 1 Ragan, I.&G.N. Sur. No. 15. R.U.

Gulf Oil Corp. No. 17 Wing, I.&G.N. Sur. No. 14. Drlg. sh.&L. 1,530 ft.

Gulf Oil Corp. No. 19 Wing, I.&G.N. Sur. No. 14. Drlg. 5,539 ft.

Humble O. & R. Co. No. 13-B Kirby Lbr. Co., P. Garcia Sur. Bldg. rd.

Humble O. & R. Co. No. 14-B Kirby Lbr. Co., M. Victor Sur. Drlg. 1,530 ft.

Spurger—Tyler County

Republic Prod. Co No. 21 fee, N. Hurd Lge. 9⅝-in. csg. 1,807 ft.; drlg. sh. 2,620 ft.

GULF COAST WILDCATS

Brazoria County

Crosby Drlg. Co. No. 1 H. A. Paine, A. G. Reynolds Sur. R.U.

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Bryan Mound). M.I.M.

Hamman Explrn. Co. No. 1 Darrington, Achilles McFarland Sur. 10¾-in. csg. 1,200 ft.; 7-in. csg. 8,887 ft.; T.D. 8,917 ft.; perf. csg. 8,250-8,300 ft.; flwd. 15 B.P.H.; 7/32-in. ck.; wtr. and mud broke in; reperf. csg. 8,650-8,750 ft.; swbg.

Hamman Explrn. Co. No. 2 Darrington State Prison Farm, F. Bingham Sur. W.O. rig.

Glenn McCarthy No. 1 Houston Farm Dev., James F. Perry and E. Austin Sur. No. 7. Spd.

Simmons & Co. No. 1 Bula Marmion, L. M. H. Washington Sur. T.D. 2,700 ft.; abd.

Smith & McDannald No. 1 Slocum, Henry Austin Sur. Drlg. sh. 3,350 ft

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.

Plymouth Oil Co. No. 1 Wilburn, Wm. H. Moore Sur. 10¾-in. csg. 1,994 ft.

Fort Bend County

Atlatl Roy. Corp. and Adams O. & G. Co. No. 1 C. H. Stancl, F. F. E. Alcorn Sur. Drlg. sh. 5,850 ft.

Superior Oil Co. No. 1 Shirle Beard et al, H.&T.C. Sur. No. 111. 10¾-in. csg. 1,230 ft.; drlg. sh. 4,675 ft.

Woodland Oil Co. No. 1 Henrietta Berg et al, H.&T.C. Sur., Sec. 25. Drlg. sh. 4,796 ft.

Galveston County

Sun Oil Co. No. 1 State, East Galveston Bay. M.I. barge.

Hardin County

Norcoff Corp. No. 1 Caswell, B.B.B.&C. Sur. No. 72 (E flank Saratoga dome). R.U.

Harris County

Consolidated Oil Co. No. 1 Holtkamp, Eli Noland Sur. T.D. 3,226 ft.; sdtrkd.; drlg. sh. 3,850 ft.

John Deering No. 1 Ridgeview Farms, Duckworth Sur. 10¾-in. csg. 800 ft.; cg. sh. 6,170 ft.

H. H. Givens No. 2 Kempner-Adouse, D. Middleton Sur. Drlg. sh. 2,426 ft.

Housh & Thompson et al No. 1 J. L. Krey, B. Herra Sur. Loc.

J. H. Woodard, Jr., No. 1 Miller Est., John Skorupski Sur. S.D. 5,133 ft.

Jackson County

L. Glasscock No. 1 J. H. Drummond, R. Musquiz Sur. Drlg. sh. 4,710 ft.

T. C. Young and Whitman Drlg. Co. No. 1 R. J. Stephen, R. Musquiz Sur. R.U.

Jefferson County

I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.

Hebert & Smith et al No. 1 L. D. Fontenot, Sec. 17, H.T.&B. Sur. Drlg. sh. 7,320 ft.

Humble O. & R. Co. No. 15-B McFaddin Beach State, Gulf of Mexico, 660 ft. NW of No. 13-B. R.U.

Liberty County

Stanolind O. & G. Co. No. 1 E. M. Flowers, I.&G.N.R.R. Sur. 10¾-in. csg. 1,588 ft.; drlg. sh. 8,120 ft.

Woodley Pet. Co. No. 1 Barrett, Rebecca Coleman Sur. T.D. 8,067 ft.

Madison County

A. O. Phillips et al No. 1 E. P. McWhorter, Amy Boatright Sur. T.D. 5,000 ft.; 5½-in. csg. 1,750 ft.; prep. to test.

Matagorda County

Continental Oil Co. No. 1 Savage, Daniel Yeamans Sur. T. sd. 3,842 ft.; well blew out; killed; drlg. sh. 4,346 ft.

Pierce Est., Inc., No. 2-P fee, Ben J. Rawls and O. H. Stout Sur. Drlg. sdy. sh. 6,573 ft.

Sun Oil Co. No. 1 Cavallin, Theo. F. Koch subd., John Duncan Sur. 9⅝-in. csg. 8,502 ft.; T. gas sd. 9,313 ft.; T.D. 9,582 ft.; 7-in. csg. 9,582 ft.; perf. csg. 9,300-18 ft.; flwg. gas, mud, and S.W.; ⅛-in. ck.; T.P. 2,200 lbs.; C.P. 1,950 lbs.; killed; reperf. csg. 8,940-65

TEXAS

Week Ending June 3

GULF COAST FIELDS

Old Ocean—Brazoria County

Harrison & Abercrombie No. 2 Larsen et al, C. Breen Sur. 9⅝-in. csg. 7,000 ft.; drlg. sh.&L. 9,312 ft.

Harrison & Abercrombie No. 1 C. W. Markle, Polly & Chance Sur. 9⅝-in. csg. 7,016 ft.; cg. sh.&sd. 10,660 ft.

Harrison & Abercrombie No. 2 Osburn, C. Breen Sur. Drlg. sh. 5,834 ft.

Mid-Continent Pet. Corp. No. 1 Wm. Chenault, C. Breen Sur. Spd.

Sun Oil Co. No. 1 Borsodi-Elkins, C. Breen Sur. 18⅝-in. csg. 121 ft.; 9⅝-in. csg. 7,010 ft.; cg. sd.&sh. 10,136 ft.

Sun Oil Co. No. 3 Campbell, C. Breen Sur. Loc.

Cedar Point—Chambers County

Standard Oil Co. of Calif. et al No. 46-120 State. Drlg. sh. 1,530 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 2 Hoffman, T.&N.O. Sur. No. 131. Bldg. rd.

West Columbia—Brazoria County

Texas Co. No. 32 Abrams, G. Tennille Sur. 10-in. csg. 1,170 ft.; drlg. sh. 4,036 ft.

Texas Co. No. 5 Goldman, G. Tennille Sur. T.D. 4,381 ft.; cutting and pulling D.P.; cleaned hole to 3,029 ft.; prep. to sdtrk.; drlg. sh.&L. in sdtrkd. 7⅝-in. csg. 4,309 ft.; drlg. 4,730 ft.

Thompson—Fort Bend County

H. M. Naylor No. 1 W. L. Moody, H. Chrisman Sur. Drlg. sh. 7,036 ft.

H. M. Naylor No. 2 Musselman, H. Chrisman Sur. Cd. sd.&sh. S.O. 7,708-68 ft.; T.D. 7,782 ft.; 7-in. csg. 7,703 ft.; I.P. 941 B.P.D.; ¼-in. ck.

H. M. Naylor No. 4 Musselman, H. Chrisman Sur. Bldg. rd.

H. M. Naylor No. 5 Musselman, H. Chrisman Sur. Bldg. rd.

Dickinson—Galveston County

Pure Oil Co. No. 1 Franz Kohfeldt et al, T. W. Johnson Sur. T.D. 8,479 ft.; gas sd.

League City—Galveston County

Phillips Pet. Co. No. 1 Bryan, Perry & Austin Sur. R.U.&S.D.

Phillips Pet. Co. No. 1 Esperson-Phillips, S. F. Austin Sur. Drlg. sh. 4,612 ft.

Phillips Pet. Co. No. 4 Lobit, Perry & Austin Sur. Drlg. sh. 3,936 ft.

Phillips Pet. Co. No. 2 Stewart Title Co., S. F. Austin Sur. Drlg. sh. 8,212 ft.

Salt Dome Oil Corp. No. 3 Ross-Stewart, Perry & Austin Sur. 10¾-in. csg. 3,100 ft.; T.D. 9,000 ft.; 5½-in. csg. on bttm.; perf. csg. 8,689½-95 ft.; tstg.

West Prod. Co. No. 1 fee, Lot 2, Blk. 5, Perry & Austin Sur. Loc.

Aldine—Harris County

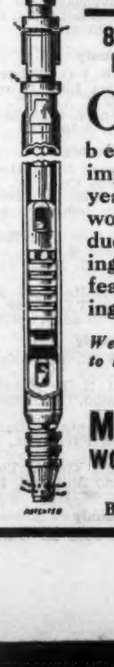
Earl Hankamer No. 1 W. B. Rowland, Lots 42 and 43, E. Farias Sur. Drlg. sh. 1,536 ft.

Bammel—Harris County

Hamill & Hamill No. 1-D Zapp, J. Farwell Sur. Spd.

Clear Lake—Harris County

Humble O. & R. Co. No. 8-C Humble-West, Wm. Doble Sur. T.D. 5,834 ft.; set 5½-in. csg. on bttm.; perf. csg. 5,830-38 ft.; gas-oil ratio high; killed.



McGREGOR

85,000 Working Barrels in Use

OUR working barrels have been continually improved for 30 years. We have worked with producers in developing many special features for pumping.

We will be glad to try to help you out of your difficulties.

McGREGOR WORKING BARREL COMPANY

Bradford, Pa., U.S.A.

ft.; C.O.; showing wash wtr.; ¼-in. ck.; flwd. 150 B.F.P.D., 75% S.W., 25% dist.; 11/64-in. ck.; T.P. 3,800 lbs.; C.P. 3,900 lbs.; killed; P.B. 9,039 ft.; reperf. csg. 8,620-45 ft.; flwd. 58 B.F., 34 bbls. dist., 24 bbls. S.W.; well went dead; W.O.; T.A.

Orange County

C. B. Bunte, Inc., et al No. 1 Miller Vidor Lbr. Co., John M. Swisher Sur. T.D. 7,011 ft.; abd.

San Jacinto County

J. W. Frazier No. 1 Annie Smith, J. D Martinez Sur. No. 10. 10¾-in. csg. 840 ft.; T.D. 7,512 ft.; abd.

Wharton County

Cockburn Oil Co. No. 1 Sam Hamburger, W.C.R.R. Sur. 65. S.D. 6,012 ft.
Moore & Ahern No. 1 Mauritz Beaty, Seale, Forwood Sur. Drlg. sh. 4,420 ft.

S. W. TEXAS WILDCATS

Bastrop County

Fuchs, Millner et al No. 1 Millner, E. Standifer Sur. T.D. 2,186 ft.; abd.
J. H. Gray No. 1 Freytag, Preston Conley Sur. Loc.
Joe Hughes et al No. 1 O. B. Lentz, Freeman Wilkinson Sur. No. 21. T.D. 2,428 ft.; 5-in. csg. 2,283 ft.; pmpg. 100 B.O.P.D.
Marts & Beaven No. 1 Chiles, Wm. McLaughlin Sur. No. 11. Cd. L. O.S. 3,217-20 ft.; 5½-in. csg. 3,217 ft.; T.D. 3,267 ft.; prep. to core ahd.

Bee County

Dirks Bros. No. 1 Page, Thos. K. Pilkington Sur. R.U.

Bell County

M. M. Gordon No. 1 Steele, Oliver T. Tyler Sur. S.D. 1,201 ft.
G. P. Shelton et al No. 1 Nelson, Michael Griffin Sur. S.D. 1,208 ft.

Bexar County

Fred Beatty No. 1 Joppich, Iginio Tejado Sur. No. 186. 6⅝-in. csg. 575 ft., S.D. 1,120 ft.; T.A.
L. L. Skaggs No. 1 Braubach, Fernando Rodriquez Sur. T.D. 373 ft.; abd.

Blanco County

H. C. McCart No. 1 Geo. Lester, Newton Carson Sur. No. 34. S.D. 265 ft.

Brooks County

Magnolia Pet. Co. No. 2 Denman, Jose Marcelo Hinojosa gr. Drlg. sh. 2,305 ft.

Caldwell County

Ben H. Fuchs No. 1 Chamberlain, Jos. Burleson Sur. S.D. 834 ft.; abd.

Cameron County

Salviejo and Pure Oil Co. No. 1 Gatewood and Dewberry, San Martin gr. R.U.

Duval County

J. B. Blanchard et al No. 1 Parr, T. C. Rogers Sur. No. 298. T.D. 4,715 ft.; rec. 400 ft. P.L.O., 30 ft. S.W.; D.S.T. 4,710-15 ft.; flwg. 22 B.O.P.D.; 3/32-in. ck.; T.P. 1,100 lb.; C.P. 1,500 lb.
W. L. Catlin et al No. 1 Louis Escapule, J. Poitevent Sur. No. 73. Loc.
Clark & Cowden No. 1 W. R. Peters, G. J. Reynolds Sur. No. 32. R.U.
Wm. Nichols et al No. 1 Tom Graham, Cuadrilla Irrg. Sur., Sec. 572. Drlg. sh. 4,029 ft.
Parr Oil Co. et al No. 1 Villareal, Antonio Andres Garcia San Andres gr. No. 24. 10¾-in. csg. 500 ft.
Geo. Proctor No. 1 Friedrichs, J. H. Gibson Sur. No. 344. T.D. 1,092 ft.; abd.
W. A. Wagner No. 1 D. J. Weikel, John H. Gibson Sur. No. 497. R.U. and S.D

Edwards County

O. L. Alderfer and C. W. Davis No. 1 J. A. Earwood, C.C.S.D.&R.G.N.G.R.R. Sur., Sec. 158. S.D. 125 ft.

Goliad County

Cron & Gracey et al No. 1 O. G. Dreier, B.S.&F. Sur. No. 7. Set 1,320 ft. of 7-in. lnr. at 5,190 ft.; T.D. 5,885 ft.; set 812 ft. of 5-in. lnr.; perf. 5,566-70 ft.; tstd. S.W.; W.O.; tstg. 5,700 ft.

Guadalupe County

Burton, Garvin & Womack No. 1 Henry Weil, E. De los Santos Coy Sur. No. 93. L. O.S. 200-10 ft.; 6-in. csg. 210 ft. acd.; cmt. failed to hold; recmtd.; swbg. 5 B.O.P.D.
John Hueners No. 1 Boecker, John Baker Sur. No. 26. S.D. 1,013 ft.
Shary Maddox No. 1 A. C. Neal, Santa Anita gr. Loc.
Trio Oil Co. No. 1 Jahns Herman, Jose K. Davis Sur. No. 12. T.D. 3,049 ft.; P.B. to sdtrk.; failed to sdtrk.; S.D.

Hidalgo County

Shary Maddox No. 1 A. C. Neal, Santa Anita gr. R.U.
Pantano Pet. Co. No. 1 R. E. Harding, La Mestena Rnh. subd. (La Bianca field). Drlg. 1,536 ft.
Rowan & Hope No. 1 Antonio Bazan, San Ramon gr., Juan Faris Sur. No. 4. T.D. 7,508 ft.; abd.
Wheelock & Smith No. 1 Yturria Town & Imp. Co., Anastacio Villareal Por. No. 43. Cg. 3,370 ft.

Jim Hogg County

Imperial Oil Co. No. 1 Jose M. Gutierrez, H. Rodriquez Sur. No. 142. 10-in. csg. 40 ft.
Johnson & Robinson No. 1 Palacios, Mary Montgomery Sur. Cg. 3,290 ft.
Magnolia Pet. Co. No. 1 Ysaquirre et al, "Agua Nueva de Abajo," J. M. Ramirez Sur. M.I.R.
Phillips Drlg. Co. No. 1 Allen, H.&G.N. Sur. No. 21. Cg. S.W. sd. 3,391 ft.

Jim Wells County

Bridwell Oil Co. No. 1 M. W. Smith, La Trinidad Sur. T.D. 5,251 ft.; 5½-in. csg. 5,251 ft.; flwg. 145 B.P.D.; ¼-in. ck.; T.P. 875 lb.; C.P. 1,000 lb.; grav. 41.3.
L. Glasscock No. 1 Robt. Adams, Juan Hermandez Sur. T.D. 5,774 ft.; abd.
Tom Graham No. 1 Mull Hrs. of Geo. W. Main No. 30 (Camade field). Drlg. sh. 4,965 ft.
Frank Gravis, Inc., No. 1 O. L. Richardson, J. Poitevent Sur. T.D. 5,330 ft.; I.P. 120 B.P.D.; ¼-in ck.
H. H. Howell No. 1 W. K. Hoffman, Lavaca gr. Drlg. sh. 6,950 ft.
Lewis Prod. Co. No. 1 Robt. Adams, Robt. Adams Sur. T.D. 4,689 ft.; 7-in. csg. 4,680 ft.
Magnolia Pet. Co. No. 1 J. O. Maun, Lot 6, Blk. 11. T.D. 5,674 ft.; rmg.
W. R. Quinn et al No. 1 D. M. and Fritz Pundt, T. C. Wright Sur. S.D. 4,770 ft.
G. L. Ramsey No. 1 O. L. Richardson, J. Poitevent Sur. T.D. 5,370 ft.; perf. csg. 5,328-35 ft.; flwg. 8 bbl. dist. per day; ⅛-in. ck.
Randon Oil Co. et al No. 1 Tulley, W. A. O. Wadsworth Sur. R.U.
Dick Schwab et al No. 1 Stehle, H.&G.N. R.R. Sur. No. 3. T.D. 6,090 ft.; abd.
Shell Pet. Corp. No. 1 2 Von Blucher, Lucinda Best Sur. T.D. 8,000 ft.; W. O.O.
Smith & Storey No. 1 Shaeffer, Stanley Welch Sur. No. 90. Drlg. sh. 2,930 ft.
Texas Gulf Prod. Co. No. 1 E. E. Miller, Benito Lopez De Jaen Sur. Drlg. sh. 3,700 ft.
Texas Pet. Co. et al No. 1 J. S. Sheldon, Los Precenos de Arriba Sur. T.D. 5,508 ft.; abd.
R. S. Waldron et al No. 1 C. B. and Peck Welhausen, Geo. Rounds Sur. T.D. 5,520 ft.; abd.

Kendall County

C. M. Dewey No. 2 Seidensticker, R. Davis Sur. No. 20. S.D. 714 ft.
Fred Turner et al No. 1 Lindner, J. Brown Sur. No. 619. Drlg. sdy. L. 930 ft.

Kenedy County

Humble O. & R. Co. No. 2 Kenedy, E. L. Penascal gr. T.D. 7,818 ft.; abd.

Kimble County

W. S. Kelly No. 1 A. L. Bierchwale, D. Lloyd Sur. Drlg. L. 130 ft.

La Salle County

Eugene Garner No. 4 Yeager, John H. Gibson Sur. No. 37. M.I.M.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. T.D. 6,404 ft.; acd.; R.U.; pmpd. 100 bbls. fluid; 36 hrs.; 3 bbls. oily emulsion, bal. S.W.; cd. L. 6,422-29 ft.; cd. por. L., oil odor; prep. to make D.S.T.

Live Oak County

L. W. Stieren No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

Mid-Western Pet. Corp. No. 1 C. E. Byrne, Geo. Pittuck Sur. T.D. 1,250 ft.; abd.
Patada Pet. Co. No. 1 A. J. McKean, M. R. Vela Sur. No. 200. T.D. 1,401 ft.; abd.
C. D. Scarborough and Bigiane No. 1 Paul Foyt, James Garner Sur. No. 6 S.D. 1,228 ft.; 7-in. csg. 1,251 ft.

Medina County

Victor Ziegler No. 1 Paul Haby, Wm. G. Still Sur. No. 1. S.D. 1,000 ft.

Milam County

H. R. Edwards et al No. 2 Camp. D Robertson Sur. Drlg. chk. 1,409 ft.
R. S. Kirby et al No. 1 Von Gonten, Maria J. Delgado Sur. Drlg. L. 2,867 ft.

Nueces County

Wm. Nicholls No. 1 Florence Richardson, Sec. 10, Enrique Villareal gr. Drlg. sh. 4,920 ft.
Seaboard Oil Co. No. 1-A John LaPrelle, Lot 9, Roberts & White subd. Rec. 630 ft. P.L.O.; D.S.T. 4,347-61 ft.; T.D. 7,437 ft.; P.B. 4,360 ft.; 5½-in. csg. 4,370 ft.; perf. csg. 4,347-54 ft.; flwd. 4 B.P.H.; S.I.
Texas Conservative Oil Co. No. 1 Brock, Sec. 55, Driscoll townsite, Pauls subd. T.D. 4,051 ft.; 7-in. csg. 3,859 ft.; perf. csg. 3,806-14 ft.; flwd. 26 B.O. in 5 hrs.; ⅛-in. ck.; T.P. 1,250 lb.; C.P. 1,500 lb.; S.I. for storage.

Refugio County

Humble O. & R. Co. No. 3 Laura Thomas, Patrick Downey Sur. Drlg. 4,026 ft.
Quintana Pet. Corp. No. 10 Williams, C. E.P.I.&M. Co. Sur. T.D. 6,220 ft.; perf. csg. 5,870-80 ft.; flwd. oil and S.W.

San Patricio County

A. O. Morgan No. 1 T. G. Benson, Antonio Gozeascocheches Sur. R.U.
Seaboard Oil Co. No. 1 Person, A.B.&M. Sur. No. 6. T.D. 6,348 ft.; 5-in. csg. 5,675 ft.

Starr County

Bishop & Moss No. 1 S. B. Ricaby, M. M. Martinez, Porc. 83. Oil sd. 1,294-1,305 ft.; I.P. 120 B.P.D.; pmpg.
C. L. Foster No. 1 H. Garza, Juan Salinas, Porc. No. 71. S.D.; no report.
Liberty Oil Co. No. 1 Bass, S.K.&K. Sur. No. 71. S.D. 150 ft.
Lynes & Robertson No. 1 Villareal, C.C. S.D.&R.G.N.G.R.R. Sur. No. 241. Loc.
Magnolia Pet. Co. No. 1 M. M. Garcia, S. Vela, Porc. No. 90. T.D. 6,567 ft.; 7-in. csg. 6,465 ft.; P.B. 6,380 ft.
W. L. Stephens and Vernon Clopton, Juan Jose de la Barza Falcon Sur. Drlg. 25 ft.
Whitfield & Southern No. 1 Carruth, S. Vela, Porc. No. 90, 10-in. csg. 300 ft.; T.D. 3,012 ft.; abd.

Travis County

Chester Barnes et al No. 1 Swenson, Lemuel Kimbro Sur. No. 46. 10¾-in. csg. 54 ft.; T.D. 801 ft.; abd.
Oscar Raesz et al No. 1 J. W. Swahn, Phillips McElroy Sur. No. 16. S.D. 566 ft.
Williams & Bick No. 1 Montpelier Savings Bnk., C. Barker Sur. No. 38. T.D. 901 ft.; abd.
Williams & Bick No. 2 Montpelier Savings Bnk., C. Barker Sur. No. 38. Drlg. sh. 65 ft.

Webb County

J. M. Anderson et al No. 1 Frost, C.C.S. D.&R.G.N.G.R.R. Sur. No. 17. Loc.
Harvey and Henderson No. 1 A. Perez, J. Poitevent Sur. No. 459. T.D. 2,803 ft.; abd.
Johnson and Robinson No. 1 Mabel Adami, A.B.&M. Sur. No. 35. T.D. 999 ft.; bailing.
Magnolia Pet. Co. No. 5 Yolpe-Benavides, E.S.&F. Sur. No. 695. Drlg. sh. 1,746 ft.
Navarro Oil Co. No. 2 Benavides, Chas. Callighan Tr. 10-in. 41 ft.; T.D. 3,511 ft.; abd.
Gordon Rouse No. 1 Withers, G. B. Withers Sur. No. 52. S.D. 1,010 ft.
Rowe & Scheig No. 1 Kirkpatrick, C.C. S.D.&R.G.N.G.R.R. Sur. No. 59. Loc.
Smith & Storey No. 1 Houston Oil Co., R. O. Barnsley Sur. No. 24. 5½-in. csg. 1,830 ft.; perf. csg. 1,834-65 ft.; T.A. 2,475 ft.
Superior Oil Co. No. 2 Frost, C.C.S.D.& R.G.N.G. Sur. No. 35. T.D. 1,970 ft.; abd.

Willacy County

Midwest Royalty Co. No. 1 Dayton, San Juan Decarriutas San Matias subd., Sh. No. 47, 10¾-in. csg. 2,370 ft.; drlg. sh. 7,896 ft.

Williamson County

Burns Oil Co. No. 1 Smith, Jefferson West Sur. T.D. 1,700 ft.; abd.
W. O. Caffey No. 1 J. Seggern, Hardy Pace Sur. S.D. 1,067 ft.
O. A. Wolters No. 1 Nelson, Geo. W. Glasscock Sur. T.D. 687 ft.; 5½-in. csg. 200 ft.

Wilson County

John F. Camp No. 1 Bundrick, H.&T.C. R.R. Sur. No. 111. 10-in. csg. 272 ft.; drlg. 1,080 ft.

Zapata County

John F. Camp. No. 1 Hinnant, R. Hinnant Sur. 72. 10-in. csg. 41 ft.; drlg. sh. 1,876 ft.
Freeman and Smith No. 1 Carlos Vela, Porc. No. 20. Drlg. sh. 736 ft.
Joe Martinez No. 2 Bruni, J. V. Borego gr. R.U.

Zavala County

H. F. Wilcox O. & G. Co. No. 1 A. A. Story, Jr., G.W.T.&P.R.R. Sur. T. Edwards L. 4,537 ft.; T.D. 4,600 ft.; abd.

WEST TEXAS WILDCATS

Andrews County

Richmond Drlg. Co. No. 1 University, Sec. 25, Blk. 12, Univ. Sur. Drlg. 549 ft.
J. W. Trippiehorn No. 1 M. A. Thornberry, Sec. 2, Blk. 42-A. S.D. 4,480 ft.

Brewster County

H. D. Wilcox No. 2 Kokernot, Sec. 23, Blk. C, J. V. Massey Sur. Drlg. 1,090 ft.

Cochran County

T. G. Shaw, Tr., No. 1 Carrie S. Dean, Lge. 94, Swbg. 12 B.F.P.H. at 5,001 ft.; swbg. and tstg. 5,005 ft.

Crane County

P. A. Christian No. 1 M. F. Stephenson, Cert. 2044, W. H. Bates Sur. No. 40. Drlg. 2,750 ft.
Gulf Oil Corp. No. 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. Est. 51 B.O.P.D.; U.R. 3,957 ft.
Standard Oil Co. of Texas No. 1 N. A. Adams, Sec. 12, Blk. 24-B, P.S.L. Sur. Prep. shoot 3,353 ft.

Crockett County

Humble No. 1 Ozona-Barnhart, Sec. 4 Blk. M-N, G.S.&F. Sur. Tstg. 8,719 ft.

Crosby County

Gulf Oil Corp. No. 1-C Swenson, Sec. 95, Blk. 2, H.&G.N. Sur. Drlg. 4,061 ft.

Culberson County

Quito Oil Co. No. 1 Cameron Lbr. Co. Sec. 24, Blk. 81, P.S.L. Sur. S.D.R. 945 ft.

Dickens County

Bond D. Jones No. 1 Ford et al, I.&G.N. Sur. S.D. 3,662 ft.

Humble O. & R. Co. No. 1 Matador Ld & Cattle Co., Sec. 28, Blk. 1, Shock & Arnold Sur. T.D. 7,074 ft.; drlg. plug 6,925 ft.; P.B. 6,925 ft.; tstg. for leak in csg.

Ector County

Barnes-Conklin & White No. 1 T.&P. Lds., Sec. 28, Blk. 45, T.&P. Sur. Drlg. plug 3,848 ft.
R. H. Gill No. 1 J. E. Parker, Sec. 12, Blk. 45, T.&P. Sur. W.O.R. 145 ft.
Lee Drlg. Co. No. 1 J. L. Johnson, Sec. 5, Blk. 42, T.&P. Sur. Tstg. 4,309 ft.
M. B. K. Drlg. Co. No. 2 Gist, Sec. 9, Blk. 42, T.&P. Sur. Comp. 1,495 ft.; B.O.P.D.
S. W. Richardson No. 1 T.&P. Lds., Sec. 13, Blk. 45, T.&P. Sur. D.&A. 1,643 ft.
Sloan & Zook No. 1 J. L. Johnson, Sec. 34, Blk. 43, T.&P. Sur. Drlg. 2,925 ft.

El Paso County

Tri-State Oil Co. No. 1 Kinkel. R.U.S.T.; to P.B. and sdtrk.; T.D. 3,571 ft.; sidetracking hole 1,925 ft.; S.D. 3,571 ft.

Gaines County

Humble O. & R. Co. No. 1 W. T. Caswell, Sec. 10, Blk. 24-A, P.S.L. Sur. Drlg. 4,453 ft.
Osage Drlg. Co. No. 1 E. H. Jones, Sec. 20, Blk. 7-A, P.S.L. Sur. D.&A. 5,146 ft.

Glasscock County

J. R. Petty No. 1 Joe Blake, Sec. 163, Blk. 29, W.&N.W. Sur. S.D.O. 1,368 ft.
Shell Pet. Corp. No. 1 A. Neal, Sec. 38, Blk. 33, T.&P. Sur. Drlg. 2,870 ft.

Howard County

Dick Graham No. 1 P. Johnson, Sec. 34, Blk. 32, T.&P. Sur. Abd. loc.
Ooley & McQuain No. 1 O'Daniels, Sec. 39, Blk. 30, T.&P. Sur. C.O. 2,720 ft.; T.D. 3,149 ft.
T. G. Shaw, Tr.-Texas Co. No. 1-B Wilkinson, Sec. 19, Blk. 34. S.D.O. 4,360 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ Sec. 34, Blk. 74, Twp 6. S.G. 6,340-45 ft.; swbg. 6,402 ft.
Haymon Krupp No. 1 Briggs, Sec. 24 Blk. 73, Twp. 7, T.&P. Sur. Rng. csg. 5,365 ft.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., Sec. 151, H.E.&W.T. Sur. S.D.O. 4,450 ft.

Pecos County

L. Cain No. 1 Masterson-Lehn, Sec. 71, Blk. 10, H.&G.N. Sur. Fsg. 585 ft.
Leidecker & Cain No. 1 M. M. Lehn, Sec. 71, Blk. 10, H.&G.N. Sur. S.D.; csg. 1,743 ft.; flwg. 20 B.O.; 24 hr.; W.O.C. 1,743 ft.
Lloyd-Penn & Hargraves No. 1 H. E. Bonebrake, Sec. 110, Blk. 8, H.&G.N. Sur. Loc.
O. E. Schade No. 1 Otis Garrett, Sec. 59½, Blk. 8, H.&G.N. Sur. Tstg. est. 35 B.O.P.D.; T.D. 2,290 ft.; swbg. est. 20 B.O.P.D.; 5 B.W.P.D.; tstg. on pmp.
Superior Oil Corp. No. 1 V. W. Crockett, Sec. 5, Blk. 110, T.C.R.R. Sur. S.D.W.O. 1,459 ft.
Superior Oil Co. No. 1 V. W. Crockett, Sec. 7, Blk. 110, T.C.R.R. Sur. C.&P.
S. Thompson No. 1 Elsinore Cattle Co., Sec. 54, Blk. D, G.C.&S.F. Sur. Rig burned; dropped bailer in hole; S.D.O. 7,342 ft.
J. C. Trees No. 1 fee, Sec. 63, Blk. 3, H.&G.N. Sur. Tstg. on pmp.; est. 5 B. O.P.D. and 5 B.W.P.D.; S.D.O. 2,359 ft.
C. W. Williams No. 1 J. Eaton, Sec. 1, Blk. 203, J. H. Handy Sur. Drlg. 2,330 ft.
C. W. Williams No. 1 T.&P. Ld., Sec. 95, Blk. 3, T.&P. Sur. Drlg. 1,440 ft.

Presidio County

L. C. Brite No. 4 fee, Sec. 113, Blk. 12, G.H.&S.A. Sur. S.D.O. 5,602 ft.
Marfa Oil Co. No. 1 Fischer ranch, Sec. 31, Blk. 8, G.H.&S.A. Sur. M.I.M.
H. D. Wilcox No. 2 Jones-Coffield, Sec. 308, Blk. 4, H.&T.C. Sur. C.O. 1,840 ft.

Reeves County

Artie Baker No. 1 J. W. Grider, Sec. 31 Blk. 58, P.S.L. Sur. S.D.R. 450 ft.

Schleicher County

Lone Star Gas Co. No. 1 Bert Page, Sec 30, Blk. L, G.H.&S.A. Sur. S.D. csg. 5,746 ft.

Scurry County

Coffield & Guthrie No. 1 First Natl. Bk Snyder, Sec. 29, Blk. 97, H.&T.C. Sur C.O. 2,450 ft.; T.D. 3,184 ft.; swbg. est. 25 B.O.P.D.; tstg. 3,184 ft.; comp. 120 B.O.P.D.
J. B. Stoddard No. 1 R. O. McClure, Sec. 142, Blk. 97, H.&T.C. Sur. W.O.C. 514 ft.
H. C. Wheeler No. 1 M. Sims, Sec. 141, Blk. 97, H.&T.C. Sur. Drlg. 2,225 ft.

Stonewall County

Forest Dev. Co. and King Drlg. Co. No. 1 Moreland, Sec. 183, Blk. D, H.&T. C. Sur. Drlg. 3,850 ft.

Terrell County

Shirley, Lanham & Blakeney No. 1, Sec. 45, Blk. 2-B, C.C.S.D.&R.G.N.G. Sur.; 2,500-ft. test. S.D. csg. 268 ft.

Tom Green County

Lynn & Cobb No. 1 I. B. Cox, Val. Mueller Sur. No. 176. S.D. 368 ft.
Roush & Steward No. 1 Pugh, James Eldridge Sur. No. 73. S.D. 194 ft.; est. 10 ft. O.I.H.
Dan Short et al No. 1 J. G. Davidson,

NW part of Lovie P. Moore Sur. S.D.R. 1,260 ft.
Southern Cross No. 1 Upton & Upton, Sec. 20, Blk. A, A.B.&M. Sur. Drlg. 4,613 ft.
Spinner No. 1 Reed, Mason Ferry Ranch Sur. S.D.O. 5,803 ft.; tools out of hole.

Ward County

Peerless O. & G. Co. No. 1 Texas Cotton Ind., Sec. 35, Blk. 1, H.&T.C. Sur. Tstg. 50 B.O.P.D.; comp. 360 B.O.P.D.
Geo. Wallace No. 1 R. Avery, Sec. 36 Blk. 1, H.&T.C. Sur. S.D. 2,104 ft.; D.&A. 2,118 ft.

Yoakum County

W. A. Hudson No. 1 J. D. Webb, Sec. 545, Gibson Sur. Drlg. 4,340 ft.
Shell Pet. No. 1 Waples-Platter, Sec. 616 Tstg. 5,380 ft.; hole fills at rate of 100 ft. per hr.; making 1 bailer of wtr. per hr.; P.B. 5,312 ft.; pmpg. 145 B.O.P.D., 30% S.W.

TEXAS PANHANDLE

Armstrong County

Holmes, Newblock & Haley No. 1 Ed Moore, Sec. 319, Blk. 4-B, H.&G.N. Sur. R.U.S.T.

Castro County

English et al No. 1 Gundlach, NW¼ Sec. 145, Blk. 6-M, S.K.&K. Sur. Loc.

Collingsworth County

Johnson No. 1 Taylor, Sec. 10-17, H.&G. N. Sur. S.D. 875 ft.

Deaf Smith County

Uscan No. 1 Farwell, Sec. 18, Blk. 3, X. Sur. U.R. 5,626 ft.

Gray County

Products O. & G. Co. No. 1 Mason Davis, Sec. 23, Blk. 23-M, H.&G.N. Sur Loc.

Roberts County

E. J. Dunigan, Jr., No. 1 Ledrick, Sec. 34, Blk. C, G.&M. Sur. Drlg. 2,070 ft.

Wheeler County

Smith Bros. No. 1 Ribble, Sec. 46, Blk. 5-A H.&G.N. Sur. S.D. 2,710 ft.

E. C. TEXAS WILDCATS

Angelina County

Ginter Bros. No. 5 Copes Hrs., J. Morin Sur., 3 mi. E of Dibol. Tstg. 2,193 ft.
Ginter Bros. and Jones No. 6 Copes Hrs., J. Morin Sur., 3 mi. E of Dibol. Cg. 2,100 ft.

Camp County

H. S. Moss No. 1 W. D. Keeling, M. A. Esparcia Sur., 2 mi. S of Pittsburg. Drlg. 4,000 ft.

Ellis County

C. M. Beckner et al No. 1 H. A. Styles, A. Bullock Sur., 3½ mi. W of Maypearl. Tstg. 410 ft.

Falls County

M. A. Hayes No. 1 D. G. Wooten, J. Powell Sur., 8 mi. SE of Zott. S.D. 40 ft.
Jack Shaunfield No. 1 Bargonier, J. M. Graham Sur., SE of Chilton. S.D. 410 ft.

Freestone County

W. B. Johnson Drlg. Co. No. 1 D. O. Nettles, W. Carter Sur., 4 mi. SE of Streetman. Drk.

Grayson County

John Grey No. 1 Freedman, W. S. Reeves Sur., 8 mi. NW of Denison. O.S. 1,357-59 ft.; S.D. 1,381 ft.; S.O.; S.D. 1,387 ft.
Jim McMurrey No. 1 Dr. T. J. Long, J. Garland Sur., 2 mi. S of Collinsville. 4,000-ft. test. S.D.O. 3,929 ft.
Prince Bros. No. 1 Williams, S. Nix Sur 2 mi. NE of Van Alystine. S.D. 1,173 ft.
Ross & Marshall No. 1 J. N. Taylor, W. Moore Sur., 8½ mi. NW of Denison.
Sinclair Prairie Oil Co. No. 1 M. Williams, R. H. Sowell Sur., 1 mi. SW of Collinsville. Drlg. 3,987 ft.

Henderson County

Richards & Holloway, Inc., No. 1 G. E. Murphy, J. M. Gardner Sur., 6 mi. SW of Mabank. T.D. 3,159 ft.; S.I. storage.
Richards & Holloway No. 1 Rowe & Baker, J. T. Childers Sur., 6 mi. SW of Mabank. 400 ft. W of Tyler & Smith No. 1 Rowe & Baker discovery well. M.I.R.
Tide Water-Seaboard-Humble No. 1 Lewis, J. K. Stokes Sur., 1 mi. N of Opelika area. Drlg. 5,581 ft.
Tide Water-Seaboard-Humble No. 1 Scott, C. Robb Sur., 3 mi. SW of Opelika area. Drlg. 6,250 ft.

Hill County

A. V. Abernathy and L. N. Sanders No. 1 E. M. Farrell, M. Mata Sur., ¼ mi. NE of Mt. Calm. S.D. 870 ft.

Houston County

Cities Service Oil No. 1 C. C. Hill, J. D Procella Sur., 2 mi. W of Grapeland Perf. csg. to test; flwg. 11 bbl. dist. and tstd. 33,000,000 cu. ft. gas.
G. C. Dixon No. 1 W. Goodman, J. J Thomas Sur., ¾ mi. E of Lovelady Drlg. 1,475 ft.
W. W. Henschliffe No. 1 J. Gilmore, Nathan Wade Sur., 1 mi. N of Navarro Crossing pool. Comp. 67 B.O.P.D.; T.D. 5,891 ft.

Kaufman County

Atwood et al No. 1 fee, F. Cortez Sur., 3 mi. NW of Mabank. Drlg. 3,690 ft.
Griffith & Griffith No. 1 B. Murray, W. Fulcher Sur., 3 mi. N of Elmo. Loc.
Sam Knoerr No. 1 J. B. Hunter, P. Walker Sur., 5 mi. S of Terrell. S.D. 2,200 ft.
W. G. McGee No. 1 General American Life Ins. Co., John Baker Sur., 6 mi W of Mabank. T.S. 3,070 ft.; S.O.; bailing 3,093 ft.; prep. pmp. 3,093 ft.
McGee No. 1 San Antonio Land & Cattle Co., E Higdon Sur. Loc.
Tyler & Smith No. 1 Trinity farms, G. Crocher Sur., 3½ mi. SW of Mabank. Drk.

Leon County

Humble O. & R. Co. No. 1 W. Johnson, W. Little Sur., outpost to Humble-Harris area. Drk.
Humble O. & R. Co. No. 1 C. R. Polen, H. W. Sublett Sur., 4 mi. NW of Navarro Crossing pool. Tstg. 5,884 ft.

Nacogdoches County

D. McDaniels No. 1 T. H. Seale, J. A Cherino Sur., just outside of city limits of Cherino. Flwg. wtr. 500 ft.

Navarro County

W. H. Strong No. 1 Emma Jackson, J. McNeal Sur., 10 mi. S of Corsicana. S.D. 780 ft.
Topaz Oil Co. No. 1 E. Trammel, R. Mathews Sur., 4 mi. NE of Bazzett. Pits.

Rains County

McKinley & Hastings No. 1 McTaggert, B. Milder Sur., 1 mi. W of Emory. S.D. 720 ft.

Red River County

Kansas-Oklahoma Pet. Corp. No. 1 R. H. Ringwald, A. Moore Sur., 3 mi. W of Manchester. Loc.

Robertson County

J. E. Cox No. 1 Sandifer, H. Henry Sur., 3½ mi. SE of Franklin. Loc.

Rusk County

Hamm & Bogges No. 1 W. G. Ross, J. McCune Sur., 3 mi. NW of Mount Enterprise. Prep. pmp. 60 ft.

Smith County

J. H. Thomason No. 1 J. W. Bartlett, R H. Stewart Sur., ½ mi. SE of James town. Tstd. S.W.; P.B. 2,012 ft.; S.D. 2,083 ft.

Trinity County

McApline No. 1 C. V. Dilley, J. Grissett Sur., 7 mi. N of Trinity. Drlg. 1,205 ft.

Van Zandt County

F. A. Richardson No. 1-A B. C. Dodd, T. W. Hutchinson Sur., 2 mi. S of Grand Saline. S.D. 4,505 ft.

NORTH TEXAS WILDCATS

Archer County

British American O. P. Co. No. 1 T. B. Wilson, Sec. 12, H.&T.C. Sur. Sat. L. 4,666-4,759 ft.; 8¼-in. 4,739 ft.; perf. 4,666-95 ft.; tstg. est. 1,000 bbl.; flowed 308 bbl. 7 hours after 3,500 gal. acid.
G. E. Kadane & Sons No. 1 J. Hemmi, Sec. 60, Clark & Plumb Sur., Blk. 3. T.D. 5,314 ft.; running 6⅝-in. to 5,160 ft.
W. B. Omohundro No. 1 A. B. Peckham, Sec. 22, H.&T.C. Sur., Blk. 1. Drlg. 3,511 ft.

Baylor County

British Am. O. P. Co. No. 1 J. E. Cope, Sec. 220, T.&N.O. Sur. 6⅝-in. 2,850 ft.; tstg. after perf. csg. 2,808-15 ft.
British Am. O. P. Co. No. 1 F. C. Green "L," Sec. 8, H.T.&B. Sur. 6⅝-in. 3,130 ft.; perf. 3,060-65 ft.; S.O.&G.; tstg. after perf.; est. 25 B.P.D.; tstg.

Clay County

L. T. Burns No. 1 E. F. Calloway, Lot 9, Hopkins Co. Sch. Ld. Drk.
Burns and Consolidated Oil Co. No. 1 G. A. Sealing, Sec. 6, H.T.&B. Sur. A-879. 6⅝-in. 4,440 ft.; O.S. 4,439-64 ft.; W.O.C.
Frabar-Hodges and Mid-Union Drlg. Co. No. 1 Mrs. R. C. Kinder, Lot 11, Clark & Plumb Sur., Blk. 2. Drlg. 2,811 ft.
Shell Oil Co., Inc., No. 1 W. A. Davis, Sec. 93, J. H. Belcher Sur. Bailing S. S.O. 4,923-5,012 ft.; 6⅝-in. 4,923 ft.; W. O.C.; T.D. 5,100 ft.; bailing and tstg.

Cooke County

Continental Oil Co. No. 1 W. M. Gwyn, F. J. Lindheimer Sur. A-576. Drlg. 1,905 ft.
Needham & Richards No. 1 Peary, T Toby Sur. A-1047. Drlg. 2,499 ft.
Sinclair Prairie No. 8 J. M. Best, T Toby Sur. A-1054. Tstg. S.S.O. 5,143-71 ft. (200 ft. below regular pay); P.B.; tstg.

Jack County

N. B. Crenshaw et al No. 1 J. W. Kinder, J. G. Coe A-145. Drlg. 2,295 ft.

Montague County

Bridwell Oil Co. No. 1 H. A. Reynolds, Sec. 9, E.T.R.R. Sur. Drlg. 4,700 ft.
Cordova-Union Oil-Gillespie No. 1 Cable, Stephenson Sur., Abst. 462. Drlg. 2,811 ft.

Wichita County

Hanlon-Buchanan, Inc., No. 1 Fassett & Tuttle "F," D.L.&C. Sur. A-596. 6⅝-in. 4,040 ft.; drlg. plug.

Wise County

H. Jackson No. 1 F. Neeley, Blk. 29, Matagorda Co. Sch. Ld. Spd. and S.D.
H. M. Muse No. 1 F. F. Kaker, Blk. 16, Matagorda Co. Sch. Lds. Pits.

Wilbarger County

Lawson & Leavell No. 16 W. T. Waggoner A, Sec. 109, H.&T.C. Sur., Blk. 14; 3,500-ft. test. Fsg. 1,332 ft.

Young County

Brazos Young Corp. No. 1 Texas Co., J. S. Lee Sur. A-173. T.D. 4,775 ft.; P.B. 4,685 ft. to test show 4,635-85 ft.
H. M. Leidecker No. 1 J. M. Nail, Sec. 1997, T.E.&L. Sur. 6⅝-in. 3,095 ft.; 5½-in. 4,448 ft.; W.O.C.
Long & Lupton No. 1 A. Crouch, I.&G. N. Sur. A-1460. 6⅝-in. 3,865 ft.; sat. L. 3,940 ft.; treating with acid; test wtr.; S.D.O.

WEST CENTRAL TEXAS DISTRICT

Brown County

T. W. Allmon No. 1 Almeda Moore, Jesse Williams Sur. No. 144, Abst. 831. S.D.O. 1,320 ft.
Dan Hartzell No. 1 H. D. Browning, Blk. 31, Chas. Messer Sur. No. 127. Drlg. 114 ft.
Lancaster & Melton No. 1 McArthur, B. S.&F. Sur. No. 33, Abst. 133. S.D.R. 950 ft.
Lynn No. 1 Nesbitt Rice, M.E.P.&P. Sur., Blk. 25. Drlg. 630 ft.

Callahan County

Bayou Oil Co. No. 1 W. E. Jones, Sec. 84, Comal Co. Sch. Ld. Sur. Loc.
J. W. Dobbs Oil Corp. No. 2 Finley, Sec. 75, Bayland Orphans Home Lds. Skd. rig 50 ft.; rng. csg. 741 ft.
Joe Painer No. 1 M. Guyton, John Barton Sur. No. 8, Abst. 11. D.&A. at 2,010 ft.
E. L. Thomas No. 1 Ramsey, Sec. 104, B.B.B.&C. Sur. Drlg. 1,222 ft.

Coleman County

States Oil Corp. No. 1 Goodson A, Sec. 23, Blk. 2, T.&N.O. Sur. P.B. 3,643 ft.; S.D.O.
Western Well Service No. 1 Hickman, Blk. 9, S. B. Nixon Sur. D.&A. at 1,242 ft.

Comanche County

Comanche O. & G. Co. No. 1 J. E. McGuire, C. Rockefeller Sur. No. 3. S.D. O. 2,910 ft.
E. T. DeArman No. 1 Moorman, Sec. 37, D.&D.A. Sur. S.D.O. 2,860 ft.

Concho County

Clymore Co., Inc., No. 1 Hill, J. Frederick Sur. P.B. 2,000 ft.; pulling pipe.
Floyd Dodson No. 1 Robert Wilson, Thomas Green Sur. Loc.
National Resources No. 1 Armon, Sec. 105, Blk. 72, T.&N.O. Sur. S.D.R. 700 ft.

Eastland County

L. H. Choate No. 1 C. L. Yancey, Sec. 151, Blk. 2, H.&T.C. Sur. Drlg. 100 ft.
G. M. Grace No. 1 J. W. Caudle, W. Mitchell Sur., Abst. 382. D.&A. at 1,212 ft.
John L. Reeves No. 1 Jas. Weaver, Blk. 55, McLennan C.S.L., League 304. S.D.O. 600 ft.
W. R. Ritchey No. 1 Weddington, Sec. 2054, T.E.&L. Sur. S.D.R. 2,294 ft.

Erath County

Wayne Chandler No. 1 Chandler, J. W Moore Sur., Abst. 571. Drlg. 4,540 ft.

Hamilton County

Wallace & Vickers No. 1 C. C. Lund, J P. Bailey Sur. 51. Fsg. tbg. 3,375 ft.

Haskell County

Amerada Pet. Corp. No. 1 Kleiner, J. M. Cass Sur. S.D.O. 5,607 ft.
E. W. Marland No. 1 Cobb, Sec. 96, Blk. 1, H.&T.C. Sur. Loc.

Hood County

Prince & Miller No. 1 J. H. Andrews, NW cor. of Geo. Sutherland Sur. S.D.O. 820 ft.

Jones County

A. B. Bissey No. 1 Mary Spurrier, Sec. 6, Blk. 1, W. C. Walker Sur. S.D.O. 2,040 ft.
Geo. Callihan No. 1 Prewitt, Sec. 32, B. B.B.&C. Sur. D.&A. at 2,672 ft.
Ed. L. Evans No. 1 B. J. Crier, Sec. 8 B.A.L. Sur. Prep. re-treat 1,721 ft.
Fain-McGaha Oil No. 1 J. H. Harris, Blk. 79, DeWitt C.S.L. Sur., 5 mi. W. of Akard pool. Loc.
Gillespie et al No. 1 J. D. Samples, Sec. 45, Deaf and Dumb Asylum Lds. Drlg. 2,260 ft.
E. C. Lawson No. 1 M. M. McNair, Lot 3, Blk. 5, Lawson Sur., 4 mi. SW of Lueders. Drlg. 520 ft.
Noark et al No. 1 D. Southard, Sec. 8, D.&D.A. Sur., 2 mi. NW of Griffin pool. Loc.
Quality Prod. No. 1 Radford, SE¼ Sec. 20, Blk. 16, T.&P. Sur. Drlg. 500 ft.
S. B. Roberts Co. No. 1 C. Herndon, Sec. 6, M.E.P.&P. Sur., 2 mi. S of Anson. Loc.
Shaheen & Keeler No. 1 Radford, between Sayles and Akard pools. Loc.
C. W. Snoddy No. 1 Chas. Stephens, Sec. 35, Orphans Asylum Lds. D.&A. 2,301 ft.
A. H. Tarver No. 1 A. S. Barkley, Sec. 54, Deaf and Dumb Asylum Lds. Rng. 10-in. 1,911 ft.

Nolan County

Green & Owens No. 1 Tipton, Sec. 43, Blk. 19, T.&P. Sur. Fsg. csg. 4,464 ft.

Palo Pinto County

Palo Pinto O. & G. Co. No. 2 Rector, Sec. 65, Burleson C.S.L. Sur. S.O. 3,076 ft.; S.D. to tst.
Wilkerson No. 1 McPherson, S. P. Ross Sur., Abst. 839. S.D.O. 2,240 ft.
Wilson No. 1 F. M. Watson, Sec. 10, Blk. 2, T.&P. Sur. Abd. loc.

Parker County

Brown-Gardner Bros. No. 1 Gilbert, T.& P. Sur., Abst. 1958. S.D. 2,200 ft.

Shackelford County

Beams Drlg. Co. No. 1 Jackson, Sec. 85, Blk. 12, T.&P. Sur. S.D.O. 1,215 ft.
C. A. Everts No. 1 Dawson & Conway, Sec. 175, E.T.R.R. Sur. Mach.
Fox & Rudd No. 1 Shotwell, Sec. 88, B.A.L. Sur. Fsg. 1,632 ft.
Hedrick Oil No. 1 Carey, Sec. 51, Blk. 14, T.&P. Sur. U.R. csg. 1,633 ft.
C. W. Waddington No. 1 Cottle, Sec. 43, Univ. Sur. Spdg.

Stephens County

Falcon Co. No. 1 B. T. Hopper, Sec. 1142, T.E.&L. Sur. S.D. 2,860 ft.
Whittmer O. & G. Co. No. 1 Loving, Sec. 66, B.A.L. Sur.; Ellenberger test to 4,500 ft. Loc.

Taylor County

D. H. Bolin No. 1 Mabel Neill, Sec. 31, Blk. 17, T.&P. Sur. S.D.O. 2,502 ft.
Tal Vez Oil Co. No. 1 Hugo Calle, Lot 8, Lge. 120, Guadalupe Co. Sch. Ld. Sur. T.D. 2,347 ft.; prep. D.D.; S.S.G.

EAST TEXAS

(Border Counties)

Cass County

Red Iron Drlg. Co. No. 1 N. S. Spearman, Samuel Burnham Sur. R.U.

Harrison County

Ark. La. Gas Co. No. 1-B Abney, J. J. Blair Sur. Set surf. csg. 290 ft.
J. A. Hughes No. 1 Taylor, H. McNutt Sur. Drlg. 1,290 ft.

Marion County—Rodessa

Ark. La. Gas Co. No. 1 Crawford, 25-ac. tr., A. D. S. Coy Sur. Drlg. L. 5,025 ft.
Cable Tool Drlg. Co. No. 1 Sol Smith, 345 ft. WL, 450 ft. SL lse., J. Hanks Sur. Drlg. ch. rk. 2,201 ft.
Geo. Echols No. 1 C. W. Ray, 16-ac. tr., John Hanks Sur. Drlg. sh.&shlls. 3,460 ft.
Magnolia Pet. Co. No. 1 Duncan Est., 216 ft. NL, 1,105 ft. EL lse., T. M. Davis Sur. R.U.
Texas Co. No. 4 Broden, J. M. Fitzgerald Sur. T. Gloyd 5,998 ft.; cg. L. 6,009 ft.
Texas Co. No. 4 Chatten, 467 ft. WL, 2,050 ft. NL lse., Wm. R. Meyers Sur. Drlg. sh.&L. 5,852 ft.

Marion County—Other

Tom Bell No. 1 Moseley, D. Lane Sur. T.D. 2,622 ft.; S.D.

Shelby County

Earl McDaniel No. 1 C. W. McDaniel Wm. Snider Sur. P.B. to perf. 5,100 ft.; gas-dist. zone.

Canadian Fields

(Continued from Page 83)

tion through the casing. Testing through tubing is in progress.

In Section 16-18-2w5, Okalta Oil Co. No. 8, LSD 6, finished around 7,125 ft., after getting the Madison at 6,650 ft., and it is testing production. West of the main field, Okalta Oil Co. No. 6, LSD 3, Section 30-18-2w5, plugged back to 9,994 ft., has rented a compressor from Royalite Oil Co. to work with the new gas lift in taking production from the upper lime. The well has been swabbing and flowing by heads but failed to maintain continuous production.

In Section 20-18-2w5, York Oils No. 2, LSD 6, finished at 8,026 ft., after getting the Madison at 7,560 ft., and is testing production, after two acid treatments.

In Section 32-18-2w5, British Colonial Oils No. 1, LSD 5, financed by the Thomas F. Lee interests of New York, got the lime at 7,911 ft. and cemented casing at 7,935 ft.

Personal Paragraphs

JOHN W. CAMPBELL, tax specialist for the Mid-Continent Oil and Gas Association and its Oklahoma-Kansas division, has resigned to reestablish a partnership with his brother, HARRY A. CAMPBELL, in the National Petroleum Engineering Co. For 6 years Mr. Campbell has been a staff assistant to CLAREL B. MAPES, general secretary of the association. During the first 4 years he was in charge of all accounts and membership records. For the past 2 years he has handled the analyses of state and federal tax laws and the rules and regulations issued under them. Throughout his entire service with the association he has been secretary of its two important standing tax committees. The firm which he will rejoin makes appraisals and engineering reports on oil and gas properties.

J. H. PRESSLEY, manager of the Sun Oil Co.'s Dallas, Tex., office, was taken to St. Paul's Hospital in that city recently, when stricken suddenly with serious illness.

O. L. POLSON, of the Gulf Oil Corp.'s purchasing department in Tulsa, has been transferred to the head purchasing department in Pittsburgh, Pa. His place in Tulsa will be taken by M. G. McCLURE.

A. F. CORWIN, New York, vice president and director of Socony-Vacuum Oil Co., who has been in California on a business and pleasure trip, motored from Los Angeles to San Francisco, with B. E. PARSONS, manager of General Petroleum Corp.'s production department, stopping en route to inspect all San Joaquin Valley fields.

S. V. WHITE, chief geologist of Consolidated Oil Co. of Texas, Wichita Falls, is spending much time in the Mount Houston area on the Gulf Coast, where COL. W. T. KNIGHT, president of that company; TOM HUNTER, independent operator of Wichita Falls, and H. C. COCKBURN, president of Cockburn Oil Corp., Houston, are drilling a well in the Mount Houston area. The Mount Houston well is the first oil venture for Colonel Knight and Mr. White on the Gulf Coast.

J. D. FREEMAN, for years in charge of the production department of Panhandle Eastern Pipe Line Co., has resigned. Mr. Freeman announced no plans but he will make an extensive trip through the Mid-Continent and California oil fields. H. W. POPE has taken over the duties of Mr. Freeman and will be head of both the land and production departments.

GEORGE E. FAGG and BERT F. WEEKLEY, independent operators of Fort Worth, Tex., returned last week from their Kodiak bear hunt in Alaska. J. M. LOFFLAND and GEORGE CALVERT, the two other members of the party, stopped off at San Francisco for the fair and to do some tuna fishing in the Gulf of California. The four hunters bagged two Kodiaks each, the season's limit.

MALOY STEVENSON, formerly chief engineer for Cosden Petroleum Corp. at its Big Spring, Tex., refinery, has been transferred to Graham, Tex., where he will act as superintendent of the company's new skimming plant.

W. H. FRANCIS, director, vice president and general counsel of Magnolia Petroleum Co. and Magnolia Pipe Line Co., announced last week that he would retire from active service with the two companies July 1. Mr. Francis has been associated with Magnolia since 1912 and has been vice president and general counsel since 1921.

R. O. ARMSTRONG has resigned as assistant manager of Tropical Oil Co. in South America and has been succeeded by J. M. GATES. R. M. HURT, who was field superintendent in Colombia, has been transferred to Quito, Ecuador, as representative of International Petroleum Co. Mr. Hurt is a son-in-law of J. J. CONRY, president of Carter Oil Co.

W. B. ALLEN was reelected president, treasurer and general manager of Travelers Oil Co. at a recent meeting of the directors in Amarillo, Tex. MYRON GILLMAN was reelected vice president and production superintendent, and W. T. GILLMAN secretary and development superintendent. These three, with HENRY HORN, of Channing, Tex., and LUTHER BARNES, of Memphis, Tex., make up the board of directors.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

J. C. Tennant, famous among early day Pennsylvania oil scouts, is writing a series of articles for the Oil City Derrick covering his experience as a scout in the Pennsylvania oil fields.

Rogers Kemp, Tulsa oil man, donates $25,000 to Kendall College, a Tulsa institution. Other oil men chipped in to bring the gift up to $100,000.

Edward O'Neill, widely known Gulf Coast oil producer, dies in Houston, Tex.

20 YEARS AGO

Mrs. Dellora R. Gates of Port Arthur, Tex., is the largest stockholder in the Texas Co., with an ownership of 55,275 shares, valued at around $13,000,000. More than 4,000 persons are Texas Co. shareholders.

Mrs. Peder Paulson, wife of the owner of the Paulson farm in the heart of the rich Towanda field in Butler County, Kansas, dies of heart failure. Great wealth did not change Mrs. Paulson. She and the family continued to live in the old homestead regardless of their easily earned riches.

The Texas Co. opens the Hewitt pool in Carter County, Oklahoma, with a 500-bbl. well in Section 27-4s-2w.

10 YEARS AGO

A reunion of men who had worked for the Burma Oil Co. in upper Burma, India, was held in Tulsa. The men were the guests of the oil company at a banquet in the Mayo Hotel.

Earl L. Miller becomes vice president in charge of sales of Shell Oil Co. of California.

Karl E. (Happy) Young, chief geologist for Rycade Oil Corp. resigns to take a similar position with Union Sulphur Co.

LIONEL O. P. WALSH, Montreal, Canada, president of Dominion Tar & Chemical Co., was elected last week to the directorate of the McColl-Frontenac Oil Co., Ltd.

C. A. WARNER, superintendent of the land and lease department for Houston Oil Co., Houston, Tex., is on an extended visit in the East, making his headquarters in Baltimore, Md., where he is on a special business assignment.

PAT DUNCAN, chief scout for Magnolia Petroleum Co., Dallas, Tex.; MORRIS PHILLIPS, North Texas district scout at Wichita Falls., and JERRY SMITH, from the Pampa office, left last Saturday for a two-week trip to New York, Montreal, and other points north and east.

N. J. McGAW has been made vice president of transportation and supplies of Shell Oil Co., Inc. Mr. McGaw will continue to supervise the transportation and supplies department and the crude oil department, which have been in his charge since last January. His offices are in St. Louis, Mo. He is 36 and has been in Shell service 14 years.

SAMUEL F. PRATT, European representative of the Pennsylvania Grade Crude Oil Association, will return to this country to speak at the association's annual meeting in Pittsburgh, Pa., June 15-16. Others scheduled to address the association include DR. A. W. GAUGER, director of research, school of mineral industries, Pennsylvania State College, and LEO RANNEY, who will describe horizontal drilling.

PHILLIP GRANT, scout and land man with the Deep Rock Oil Corp., has opened offices in Shreveport, La., having been transferred from the Tyler, Tex., office.

H. R. CULLEN, Houston, Tex., oil man, has booked passage for an Alaskan trip, starting late this month. Members of his family will accompany him.

HOWARD CAGLE, of Richfield Oil Co., with offices in Los Angeles, Calif., has recovered from injuries suffered in an automobile accident and is back at his desk.

BOB THOMPSON, chief geologist for the Danciger Oil & Refining Co., Fort Worth, Tex., was entertainer and chief story teller at a frolic for the company employes last Tuesday afternoon at the W. E. Hobgood camp on Lake Worth.

DR. PER K. FROLICH, director of the chemical laboratories of Standard Oil Development Co., will discuss synthetic products from petroleum in Bradford, Pa., June 8 and in Oil City, Pa., June 9 under the auspices of the Department of Manufacture, National Petroleum Association.

HENRY A. LEY, San Antonio, Tex., president of the American Association of Petroleum Geologists, and J. P. D. HULL, Tulsa, business manager of that organization, participated in the fourteenth annual field trip of the Shreveport (La.) Geological Society into South Arkansas and North Louisiana June 2, 3, and 4. There were about 150 geologists in the party. The trip was headed by C. C. CLARK, Union Producing Co., president of the Shreveport society, and E. FLOYD MILLER, secretary-treasurer.

Liked It, So He Stayed

R. L. Clifton had grown up on a farm near Gretna, Neb., and not being enthralled by the life, went to Oklahoma at 19, got a job as roustabout on an oil lease 7 miles north of Tulsa, liked it and stayed. One thing followed another, and today he is general superintendent of the Carter Oil Co. and assistant to the general manager. Incidentally, he will take over the duties of general manager pending appointment of a successor to F. W. Floyd, who has been transferred to Venezuela.

R. L. CLIFTON

Young Clifton, who had gone to grade and high schools in Gretna, was on the oil lease a short time only when he took a year out to attend the Parsons (Kans.) Business College. A wide variety of oil jobs, including drilling, followed, before he entered Carter service in 1917 as district foreman at Augusta, Kans. Three years later he was named a division superintendent. The next year he was moved to the headquarters office in Tulsa and put in charge of northern Oklahoma and Kansas. Soon he was promoted to assistant to H. O. Helvie, then directing Oklahoma and Kansas production. In 1934 he was placed in charge of the Oklahoma City division. In 1936 Mr. Clifton was advanced to assistant general superintendent and the next year to his present responsible post. He likes golf and knows some of the good fishing holes. He married Miss Mazie Lemley, of Independence, Kans., and they have three children.

WALLACE E. PRATT, director of Standard Oil Co. of New Jersey, is in Santiago, Chile, on company business.

JAMES GREER, head of the legal department of Gulf Oil Corp.'s producing division, returned to New York last week from Venezuela.

LOUIS H. MACK, production engineer for Bell Oil & Gas Co. in the Wichita Falls, Tex., district, has returned from a short trip to the Illinois basin fields.

R. D. MORGAN, formerly with the Tide Water Associated Oil Co. in Rodessa, is now affiliated with the Tide Water-Seaboard interests in Palestine, Tex., where his work will be in the company's recycling operations in Cayuga and Long Lake fields.

T. W. COLLINS, who was superintendent of the Drumright district for Sinclair Prairie Oil Co., and then spent 2 years in the Seminole field, is back in Drumright, succeeding JOHN MILLAR, transferred to Great Bend, Kans.

W. H. MEIER, of Atlantic Refining Co., Dallas, Tex., has been named chairman of the A.P.I. central committee on district activities. L. L. AUBERT, Bankline Oil Co., Los Angeles, Calif., was made vice chairman and C. A. YOUNG, American Petroleum Institute, Dallas, Tex., secretary.

MAX CONREY, active in the Illinois development, is drilling a well just 40 acres from the Mound Chapel School, near Patoka, Ill., where he started to work as a teacher 31 years ago. After following the teaching profession for years he quit it to become an oil operator. He was among the first to move into Illinois in 1937.

SHIFTS: J. H. KRUEGER, geologist Hill & Hill, from McAllen, Tex., to Burlington, Wis.; DAN H. SHOLTUS, assistant superintendent Phillips Petroleum Co., from Thrifty, Tex., to Kechi, Kans.; WARREN A. ALEXANDER, engineer Carter Oil Co., from Atchinson, Kans., to Maryville, Mo.; JACK L. HOLLIS, Seismograph Service Corp., from Taylorville, Ill., to Tulsa; LEO A. BESSELMAN, superintendent Cities Service Refining Co., from East Braintree, Mass., to Haddonfield, N. J.; R. H. GREEN, vice president Signal Oil & Gas Co., from Long Beach, Calif., to Palos Verdes Estates, Calif.; ROBERT M. FRANKS, geologist, from Alice, Tex., to Edna, Tex.; G. E. ARNOLD, engineer Aetna Oil Service, from Corpus Christi, Tex., to Republic Natural Gas Co., Refugio, Tex.; ARTHUR HARVEY, drilling contractor, from Dallas, Tex., to Salem, Ill.; THOMAS B. MALLOY, engineer Texas Co., from Freer, Tex., to Seguin, Tex.; JAMES A. MOORE, D'Arcy Exploration Co., from Victoria, Tex., to Lake Charles, La.; H. L. PATTERSON, superintendent Pure Oil Co., from Clay City, Ill., to Corpus Christi, Tex.; M. S. JOHNSON, superintendent B. & R. Drilling Co., from Salem, Ill., to Mount Vernon, Ill.; O. E. SOWERWINE, JR., engineer Socony-Vacuum Oil Co., Inc., from Paulsboro, N. J., to Woodbury, N. J.; MARK H. O'CONNELL, geologist Cities Service Oil Co., from Hays, Kans., to Lyons, Kans.; LEO J. GUDE, engineer Coline Oil Corp., from Oklahoma City, Okla., to Seagraves, Tex.; S. P. WEATHERBY, Seismograph Service Corp., from Okmulgee, Okla., to Flora, Ill.

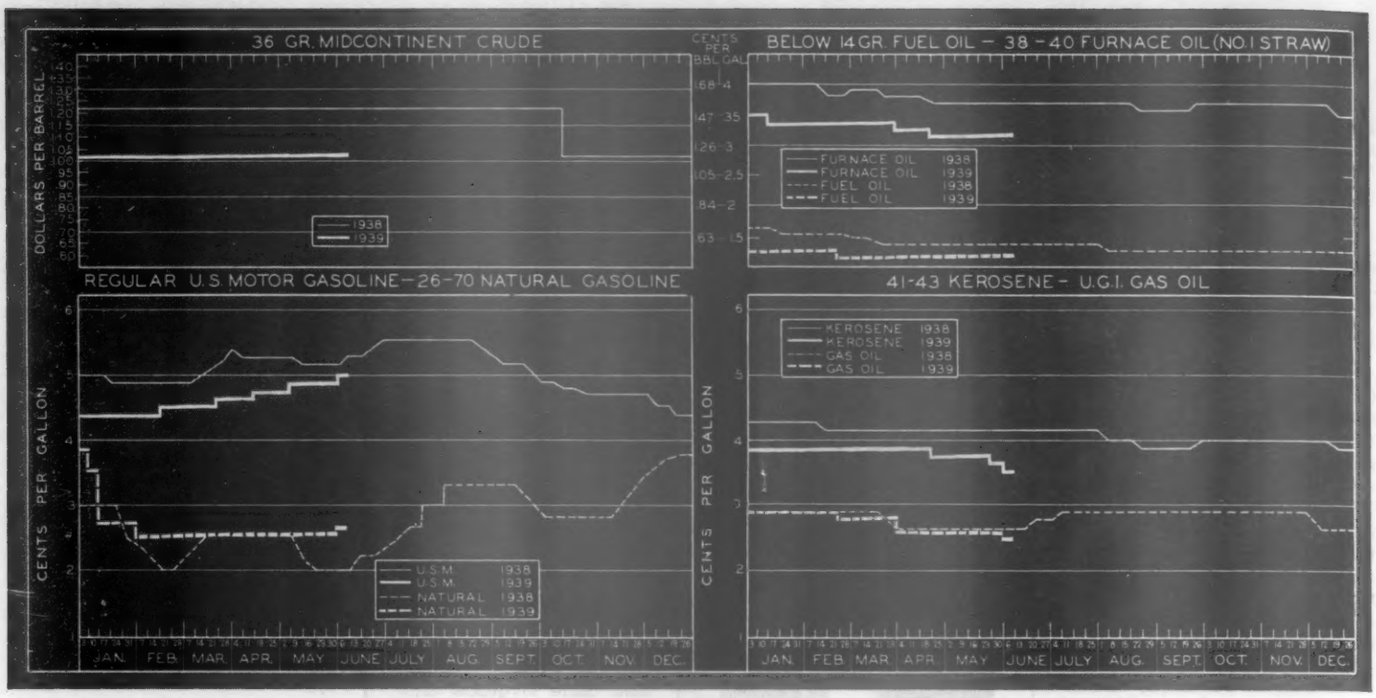
W. W. CLINE, vice president of Rocky Mountain Drilling Co., with headquarters in Casper, Wyo., has been transferred to Bakersfield, where he will superintendent the company's California activities. DORSEY STRAITIFF, president of Rocky Mountain, has gone to Bakersfield also to join Mr. Cline for a few weeks in looking over company properties and drilling operations.

DR. H. G. WALTER, district geologist in the Texas Panhandle for the Texas Co., and DR. LEROY T. PATTON, of Texas Technological College, Lubbock, will be the leaders of a two-day field trip in New Mexico planned by the Panhandle Geological Society for June 10 and 11. Dr. Walter will be in charge the first day, when the geologists will start from Roswell and end at Alamogordo. They will study Paleozoic rocks and visit the White Sands Monument. The second day will be devoted to a study of Cretaceous rocks. Dr. Patton will conduct the party through the Lake Nogal and Capitan areas.

W. L. CONNELLY, chairman of the board of Sinclair Prairie Oil Co.; W. W. BAKER, vice president; DANA KELSEY, vice president in charge of the land department; H. M. RUSSELL, geologist, and J. W. JORDAN, production superintendent in charge of the Wyoming division, are back at their desks in Tulsa following a trip to Wyoming, where they inspected company properties.

MIHAIL PIZANTY, well-known authority on petroleum in Rumania, has been awarded the Hagi Vasile prize of 5,000 lei from the Rumanian Academy for his report on "Rumania's Place in the World's Oil Trade." The report is a statistical study of the activity of the country in the oil industry. It gives exports from 1879 to 1916 and marketing and consumption data from 1901 to 1935.

T. E. SWIGART, vice president of Shell Oil Co., Inc., in Houston, Tex.; DR. R. R. MORSE, manager exploration department; D. B. COLLINS, manager producing department, and B. L. RYAN, manager land department, were speakers at a dinner given for employes in the Houston office who have been with the company 10 years or longer. C. E. MUELLER, chief accountant, was master of ceremonies. Plans were formulated for the organization of the Shell Ten and Above Club.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Lifting Tank-Wagon Prices Is Tonic to Gasoline Market in Group 3 Area

By T. F. SMILEY

The Group 3 gasoline market, feeling pretty cheerful lately, received a further tonic this week in the announcement by the Standard Oil Co. of Indiana that its movement to raise subnormal tank-wagon prices, already effective in Illinois, Indiana, and Wisconsin, would be extended Thursday morning, June 8, to virtually all the rest of the territory in which it is recognized as the key marketing organization. The added states are Minnesota, Iowa, Missouri (except St. Louis and St. Louis County), Kansas, North Dakota, and South Dakota. Subnormal tank-wagon prices to dealers and consumers on Standard Red Crown and Stanolind gasolines and on Solite with ethyl are raised to normal or to the extent of ½ cent a gallon where the subnormalcy exceeds ½ cent.

Gasoline and Naturals Up

Tankcar prices of both gasoline and the naturals were up an eighth, and for the first time in about 8 months it could be said that most Oklahoma refiners were receiving a price for gasoline that enabled them to break even. A few, advantageously situated with respect to freight rates, figured they could make a little profit.

The lull in buying which often characterizes the end of the month was accentuated last week by the Memorial Day holiday. Jobbers had stocked up with gasoline in preparation, and many had enough left over to make immediate ordering unnecessary. But pickup in demand became pronounced as the present week opened, and suppliers expressed confidence that a steadily improving market was in prospect. It was predicted that following the correction of disordered tank-wagon prices on so broad a front, further tankcar price advances would be witnessed soon.

Refined Oil Market Barometer

Rising consumption and correction of subnormal tank-wagon prices over wide area is imparting increased firmness to gasoline, going far toward neutralizing effects of uncertain crude situation. Dullness of kerosene and tractor fuels more pronounced. Natural gasoline demand pulls quotations higher. Heavy industrial fuels moving into better position. Wax continues firm.

MID-CONTINENT. Gasoline and naturals up. Kerosene and tractor fuels off.

EAST COAST. Heavy fuels and gasoline steadier. Light fuels holding well.

GULF COAST. Fuel oils stronger. Gasoline steady. Gas oils weak. Market fairly active.

PENNSYLVANIA. Gasoline firmer. Wax holding. Neutrals and bright stocks firm.

CALIFORNIA. Market generally quiet and soft, with prices vulnerable.

CHICAGO. Gasoline stronger. Kerosene lagging. Heavy fuels holding.

In gasoline movement to consumer areas recent weeks have seen records toppled. One large Mid-Continent company's tankcar shipments in May were the heaviest in its history for that month. Another company made a similar report with reference to its main refinery. Both companies are buying gasoline and will have to continue to buy throughout the summer.

Natural gasoline, which had been restive, snapped the leash and jumped up an eighth in both Oklahoma and Texas. Demand from independent refiners on the Gulf Coast was reported to have cleaned up all material offered. Motor fuel stocks of these independents had been drawn upon for shipment to the East Coast lately by major companies. As most of this gasoline has been stored for a long time, it must be "pepped up" by addition of natural. Observers commented upon the better conditions obtaining in the natural gasoline trade as compared with those in 1938. There was much forced selling in May and early June last year, and the price of 26-70 dropped to 2 cents.

Tractor Fuels and Kerosene Off

Tractor fuels ran into a dull stretch and surrendered an eighth. With harvesting operations under way in southern regions and expanding, it was believed likely this class of products would recover lost ground. Kerosene accompanied the tractor fuels on their way down hill. Nobody is worrying about kerosene and allied products, however; for there is little probability of burdensome stocks piling up. When there is danger of that contingency refiners can stop making the kerosene, for they don't have to make it.

Range oil and prime-white distillate went the way of kerosene, as they usually do. The lower-gravity distillates held well, especially the No. 2 straw, No. 2 dark, and No. 3 low cold test.

An unexpectedly heavy movement of bright stocks, neutrals and finished motor oils helped to brighten the refinery picture. Wax was holding, although demand was not quite so insistent.

Gains Recorded by Gasoline and Heavy Fuels on East Coast

By H. STANLEY NORMAN

NEW YORK, June 6.—Heavy fuel-oil and gasoline markets along the North Atlantic seaboard moved into higher ground last week. Improvement in the refined-products market eased the pressure on the crude-price structure. Bunker C fuel oil was advanced June 1 by all major suppliers 10 cents per barrel at Atlantic ports and 5 cents on the Gulf Coast. The new price at North Atlantic ports is $1.05. The price at Florida and Georgia ports ranges from 95 cents to $1, and quotations at Gulf Coast ports are 80 cents. The advance to $1.05 per barrel in New York was inaugurated nearly a month ago by Cities Service, but other suppliers retained the posting of 95 cents until Standard Oil Co. of New Jersey and subsidiaries raised their posted prices June 1. The Gulf Coast primary market for Bunker C fuel oil has been bullish for two months, gradually rising to a range of 75 to 77½ cents per barrel for cargo quantities.

Industrial Fuel Prices Stiffen

Industrial fuel oil, No. 6 grade, the shore-plant counterpart of Bunker C, has been quoted at $1.05 per barrel in tankcars at Atlantic Coast terminals for several weeks. No advance was reported in the shore-plant market for industrial fuel oil last week, but the price structure stiffened on the low side to the gradual exclusion of cut-rate offerings. Practically all tank-wagon suppliers are quoting 2.85 to 3 cents per gallon for No. 6 burning oil.

Declining stocks of residual fuel oil and the subnormal differential between cargo and bunker lots were factors advanced by Standard Oil Co. of New Jersey for last week's general market advance. For more than a year Standard of New Jersey has followed a policy of explaining its position in each movement of the market.

"For some time," the company statement said, "stocks of residual fuel oil have been at extremely low levels, while demand has been maintained at a high rate. A shortage of supplies is in evidence. Prices for cargoes of bunker fuel oil in the United States Gulf for some time have been higher than the price for bunker quantities. This increase reestablishes or brings nearer normal the differential between the price for cargo and bunker lots."

Tankcar gasoline prices at New York, Philadelphia, and Boston terminals were raised a quarter cent per gallon by several Atlantic Coast suppliers on June 1. The movement of the motor-fuel market raised most quotations for 65-plus octane gasoline to 6¼ cents per gallon in tankcars. The upward trend did not extend to the high side of the market since some suppliers had been quoting 6¼ cents for more than a month. Firming of the motor-fuel market's underside, however, is considered the forerunner of a more general upward movement, which some observers believe will develop before the middle of June. Consumption is beginning to hit midsummer proportions in this section of the country due to a combination of more favorable motoring weather and the New York World's Fair attraction. Motoring to the fair and to New England resort centers will not reach its peak until school terms are ended, freeing families to spend their vacations in this section. Confidence in the motor-fuel market was restored to a marked degree by the June proration order in Texas calling for a 5-day producing week.

The Gulf Coast motor-fuel market is reported to be on firmer ground, largely because five cargoes were reported sold last week at the published market, strengthening the few weak spots which appeared during the final two weeks of May.

Normalizing of the tankcar and tank-wagon prices in the Standard of Indiana territory and apparent ability of the demand to take the advances there has stimulated the market outlook on the East Coast. The middle western market movement was watched with interest by East Coast suppliers as a barometer of conditions, since Chicago is at the back door of the Illinois fields, where so much under-the-market crude originates.

Although stocks of light fuel oil are currently advancing at a moderate rate, demand in the burning territory has extended beyond normal requirements for about 30 days. Until the past week or 10 days, evening and early morning operation of furnaces in private homes, office buildings, hospitals and similar institutions was necessary. The market for light burning oil is also benefiting by another season's expansion of Diesel-engine installations. New York tankcar prices for kerosene and No. 2 fuel oil are holding at 4¼ and 3⅞ cents, respectively, although both quotations may be shaded slightly on firm bid for prompt movement. The tank-wagon price for kerosene in New York territory ranges from 7 to 7½ cents.

Since the light and intermediate fuel oils are normally soft from a market standpoint during the current quarter of the year, and since it is a period of accumulation of stocks for next fall and winter, there is only slight concern over softer prices. Furthermore, the market structure and demand for light fuel oils has held higher than many anticipated. The chance to accumulate stocks against next winter's demand is not entirely unwelcome by refiners.

Winter Market Being Fashioned

The five-day producing week in Texas ordered for June by the Railroad Commission was regarded by the eastern statisticians as an opportunity for the industry to bring stocks into sounder economic position and may help to cushion the impact of curtailed motor-fuel consumption during the final quarter. Factors now present in the industry offer the possibility that current or higher summer motor-fuel prices will carry well into the fourth quarter and close the year with a better earning record than prevailed during the first 6 months. The market and stock position for the winter period is being fashioned now, and observers feel that if production can be confined to reasonable limits over the next 90 days the industry can look for a stronger winter market than prevailed in the 1938-39 season.

Scale grades of wax continued as another feature of the refined-products market last week. Offerings were limited in the western Pennsylvania and Gulf Coast regions at current prices ranging from 2.9 to 3 cents per pound. Export demand has tapered off slightly during the past two weeks, but shipments abroad are considerably ahead of 1938. Some suppliers are not yet in position to quote for prompt delivery and prefer to discourage forward commitments.

Pennsylvania lubricating oils are in firm demand at prices unchanged from the preceding week. Most of the current movement is against contracts for over-the-year delivery, although spot buying by jobbers has been on the increase during the past 3 weeks. Neutral and bright-stock oils are maintaining their gains of the past 3 weeks in western Pennsylvania, and producers there are considering another fractional advance in the near future.

A. P. I. Weekly Refinery Statistics

Week Ending June 3, 1939

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	570,000	21,930,000	6,635,000
Appalachian	85.9	103,000	3,548,000	641,000
Indiana, Illinois, and Kentucky	89.5	548,000	13,729,000	5,123,000
Oklahoma, Kansas, and Missouri	81.6	274,000	7,656,000	4,085,000
Inland Texas	50.3	100,000	1,576,000	1,950,000
Texas Gulf	89.5	827,000	9,956,000	8,650,000
Louisiana Gulf	97.3	131,000	2,512,000	2,158,000
North Louisiana and Arkansas	55.0	40,000	511,000	838,000
Rocky Mountains	54.2	56,000	1,742,000	673,000
California	90.0	523,000	15,467,000	96,043,000
Total reported	85.8	3,082,000	78,627,000	126,806,000
Estimated unreported	.....	333,000	5,010,000	2,880,000
*Estimated total	.....	3,415,000	83,637,000	129,686,000
*Estimated total previous week	85.8	3,405,000	84,152,000	128,834,000
June 4, 1938	.....	3,129,000	87,385,000	133,923,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ending May 27, 1939	278,289,000 barrels
Week ending May 20, 1939	277,068,000 barrels
Week ending May 28, 1938	301,583,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of June 6, 1939

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline Tank-wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank-wag.
Chicago, Ill.	15.1	13.1	4.0	10.0
Decatur	15.1	13.6	4.0	10.0
Joliet	15.1	13.6	4.0	10.0
Peoria	15.1	13.6	4.0	10.0
Quincy	14.9	13.4	4.0	9.7
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	13.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	9.4
Minneapolis	16.5	15.0	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.4	5.0	10.8
Milwaukee	15.4	13.9	5.0	10.2
Detroit, Mich.	13.1	11.6	4.0	7.1
Grand Rapids	14.0	12.5	4.0	9.7
Saginaw	15.8	13.1	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	15.3	5.0	†10.7
South Bend	17.1	15.6	5.0	†10.0
Fargo, N. D.	16.7	15.2	4.0	11.6
Huron, S. D.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.4	4.0	8.0
St. Louis*	14.2	12.7	4.0	8.0
St. Joseph	14.4	12.0	4.0	8.16
Wichita, Kans.	13.9	11.1	4.0	7.4

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective June 1, 1939, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gallons, 9 cents; 100-149 gallons, 8 cents; 150 gallons and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gallons, 8.25 cents; 150-399 gallons, 7.25 cents; 400 gallons and over, 6.75 cents. Stanolex furnace oil, 1-149 gallons, 8.25 cents; 150-399 gallons, 7.25 cents; 400 gallons and over, 6.75 cents. Stanolex Grade A, 1-399 gallons, 5 cents; 400 gallons and over, 4 cents. Stanolex Grade B, 1-799 gallons, 5 cents; 800 gallons and over, 4 cents. Stanolex Grade C, 1-999 gallons, 4.25 cents; 1,000 gallons and over, 3.25 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank-wag. con'r.	Gasoline Di-vided dlr.	Gasoline Inc. tax	Kero. tank-wag.
Ohio points	16.0	15.0	5.0	*13.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Cons. tank-car	Gasoline Dlr. tank-wag.	Gasoline Inc. tax	Kero. tank-wag.
Atl'tic City, N. J.	10.9	12.7	4.0	7.0
Newark	10.9	12.7	4.0	7.0
Annapolis, Md.	12.85	14.35	5.0	9.5
Baltimore	12.25	13.75	5.0	7.0
Cumberland	13.65	16.15	5.0	10.0
Wash'gton, D. C.	10.50	12.0	3.0	9.5
Danville, Va.	14.45	16.95	6.0	12.9
Norfolk	13.25	15.75	6.0	11.5
Petersburg	13.55	16.05	6.0	11.7
Richmond	13.55	16.05	6.0	10.7
Roanoke	14.75	17.25	6.0	11.0
Charles'n, W. Va.	14.05	16.55	6.0	12.6
Parkersburg	13.35	14.85	6.0	11.2
Wheeling	14.35	15.75	6.0	12.2
Charlotte, N. C.	15.40	17.90	7.0	11.8
Hickory	15.95	18.45	7.0	12.3
Mt. Airy	15.80	18.50	7.0	12.2
Raleigh	15.15	17.65	7.0	11.5
Salisbury	15.45	17.95	7.0	11.9
Charleston, S. C.	14.25	16.75	7.0	10.6
Columbia	15.25	17.75	7.0	11.6
Spartanburg	15.95	18.45	7.0	12.4

Price basis to Essolene undivided dealers: Dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gallons or more, consumer tank-wagon price. Single deliveries of less than 50 gallons, 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less .5 cent per gallon. The above policy also applies in South Carolina effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline Cons'r. tank-wag.	Gasoline Net dlr.	Gasoline Inc. tax	Kero. tank-wag.
Atlanta, Ga.	20.5	17.5	7.0	9.0
Augusta	19.5	16.5	7.0	9.0
Macon	20.0	17.0	7.0	10.0
Savannah	18.5	15.5	7.0	8.0
Birmingham, Ala.	21.0	18.0	8.0	8.5
Mobile	21.0	18.0	9.0	8.5
Montgomery	21.0	19.0	9.0	10.5
Jackson, Miss.	17.5	14.5	7.0	9.5
Vicksburg	19.0	16.0	7.0	9.0
Jacksonville, Fla.	19.5	16.5	8.0	8.0
Miami	19.5	16.5	8.0	8.0
Pensacola	20.5	17.5	9.0	8.0
Tampa	19.5	16.5	8.0	8.0
Lexington, Ky.	19.0	16.0	6.0	10.0
Covington	17.5	14.5	6.0	9.5
Louisville	17.5	14.5	6.0	9.0
Paducah	18.0	15.0	6.0	9.0

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank-wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	21.5	22.5	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	†13.75
Spokane	22.0	23.0	6.0	†16.75
Tacoma	20.0	21.0	6.0	†13.75

*Includes 5-cent state tax. †Includes .25-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

March 18, 1939, split dealer discount was canceled.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline Cons. tank-car	Gasoline Dlr. tank-wag.	Gasoline Inc. tax	Kero. tank-wag.
Philadelphia, Pa.	12.0	13.5	5.0	10.0
Pittsburgh	13.0	13.5	5.0	10.5
Allentown	12.5	14.0	5.0	10.5
Erie	13.0	14.0	5.0	10.0
Scranton	12.5	14.0	5.0	10.5
Altoona	13.0	13.5	5.0	10.5
Dover, Del.		14.0	5.0	10.5
Wilmington		13.5	5.0	9.75

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract, less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Cons. tank-car	Gasoline Dlr. tank-wag.	Gasoline Inc. tax	Kero. tank-wag.
Albany	11.6	13.7	5.0	7.00
*Met. N. Y.:				
Manhat., Bronx	11.7	12.8	5.0	6.75
Queens, Br'klyn	11.7	12.8	5.0	6.75
Staten Island	11.7	13.0	5.0	6.75
Buffalo	12.4	11.8	5.0	6.75
Rochester	12.6	13.5	5.0	7.75
Syracuse	12.2	14.2	5.0	7.25
Boston, Mass.	10.6	12.0	4.0	6.50
Portland, Me.	10.6	13.8	5.0	6.75
Manchester, N.H.	12.3	14.3	5.0	7.25
Burlington, Vt.	12.1	13.5	5.0	7.25
Springfield, Mass.	11.3	12.3	4.0	7.50
Worcester	11.1	12.8	4.0	7.00
Hartford, Conn.	11.0	13.1	4.0	6.50
New Haven	10.9	12.25	4.0	6.00
Providence, R. I.	10.6	12.3	4.0	6.25

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1939, the company changed its commercial consumer policy in New York and New England points for tank-wagon delivery to the following: Annual purchases 10,000 gallons and under, tankcar price plus 2 cents per gallon; annual purchases 10,000 gallons up to 50,000 gallons, tankcar price plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gallons, tankcar price plus 1 cent per gallon; annual purchases 200,000 gallons and over, tankcar price plus one-half cent per gallon. Private consumers will pay undivided dealer price, plus 2 cents per gallon. Consumers receiving full compartment deliveries of at least 200 gallons will receive a discount of one-half cent per gallon.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank-wag.	Gasoline Dlr.	Gasoline Incl. tax	Kero. tank-wag.
Denver, Colo.	17.5	15.5	5.0	11.5
Grand Junction	20.0	18.0	5.0	15.0
Pueblo	16.0	14.0	5.0	9.0
Casper, Wyo.	19.0	17.0	5.0	11.5
Cheyenne	17.0	15.0	5.0	13.0
Billings, Mont.	18.0	18.0	6.0	13.0
Butte	19.5	19.5	6.0	15.5
Great Falls	19.0	19.0	6.0	15.5
Helena	20.0	20.0	6.0	15.5
Salt Lake, Utah	17.0	17.0	5.0	16.0
Boise, Idaho	20.1	20.1	6.0	18.0
Twin Falls	20.6	20.6	6.0	18.0
Albu'que, N. M.	16.5	16.5	6.5	10.0

*Includes city tax of .5 cent. †Includes state tax of 1 mill.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Cons. tank-car	Gasoline Dlr. tank-wag.	Gasoline Inc. tax	Kero. tank-wag.
New Orleans, La.	16.75	19.25	*10.0	†11.0
Baton Rouge	14.75	17.25	8.0	‡10.5
Alexandria	14.75	17.25	8.0	‡12.5
Lafayette	15.00	17.50	8.0	‡11.0
Lake Charles	14.75	17.25	8.0	‡12.5
Shreveport	13.50	16.00	8.0	‡11.0
Knoxville, Tenn.	18.00	20.50	8.0	14.5
Memphis	16.00	18.50	8.0	11.0
Chattanooga	17.50	19.00	8.0	14.0
Nashville	17.00	19.5	8.0	12.0
Bristol	18.25	16.50	8.0	13.0

Essolene at dealer price less .5 cent per gallon to undivided dealers.

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gallons, consumer tankcar plus 2 cents per gallon; 50 to 199 gallons, consumer tankcar plus 1 cent per gallon; 200 gallons and over, consumer tankcar plus .5 cent per gallon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank-wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank-wag.
Omaha	17.5	16.0	6.0	10.3
McCook	17.0	14.0	6.0	9.0
Norfolk	16.0	14.9	6.0	9.0
North Platte	18.3	15.9	6.0	11.1
Scottsbluff	17.0	14.9	6.0	11.0

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Tank-wag.	Gasoline Dlr.	Gasoline Incl. tax	Kero. tank-wag.
Texarkana, Ark.	13.0	13.0	5.0	8.9
Fort Smith	14.0	14.0	5.0	7.5
Little Rock	16.75	16.75	7.5	8.0
Muskogee, Okla.	12.0	12.0	5.0	7.0
Oklahoma City	11.0	11.0	5.0	6.5
Tulsa	12.0	12.0	5.0	6.5

Texas

	Gasoline Tank-wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Dallas, Tex.	13.0	17.0	5.0	7.0
Fort Worth	14.0	18.0	5.0	8.0
Houston	13.0	17.0	5.0	8.0
San Antonio	14.0	18.0	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero. tank-wag.
Halifax, N. S.	23.5	10.0	17.5
St. John, N. B.	23.5	10.0	17.5
Montreal, Que.	22.0	8.0	14.5
Toronto, Ont.	23.0	8.0	15.5
Hamilton, Ont.	23.0	8.0	15.5
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.9
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	26.5	7.0	21.5
Calgary, Alta.	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Illinois-Indiana-Kentucky Coal Basin Maps

A new set of quadrangle maps covering all of the Illinois-Indiana-Kentucky coal basin area on a scale of 1 in. to 1 mile, has recently been completed by George F. Kelly, 223 Kennedy Building, Tulsa, and makes available to the oil industry for the first time, a complete and uniform set of maps showing correct alignment of surveys and sections, and location of old and new fields and dry holes throughout the area. The region covered by the maps extends from Township 17n in Illinois and Indiana, south of Bowling Green, Ky., and from St. Louis east to include Range 1w in Indiana and Louisville in Kentucky. They are also available on scales of ½ in. and ¼ in. to the mile.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of June 6, 1939

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below	.04¼	.04⅜
63-66 octane	.04½	.04⅝
67-69 octane	.04¾	.04⅞
70-72 octane (regular)	.05	.05⅛
60-62 400 grades:		
62 octane and below	.04¼	.04⅜
63-66 octane	.04½	.04⅝
67-69 octane	.04¾	.04⅞
70-72 octane (regular)	.05	.05⅛
64-66 375	.04⅛	.04¼
68-70 360	.05	.05¼

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04¼	.04⅜
63-66 octane	.04½	.04⅝
67-69 octane	.04¾	.04⅞
70-72 octane (regular)	.05	.05⅛
60-62 400	.04¼	.04⅜
64-66 375	.04⅛	.04¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04⅜	.04½
63-66 octane	.04⅝	.04⅝
67-69 octane	.04⅞	.04⅞
70-72 octane (regular)	.04⅞	.05¼

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below	.04⅜	.04½
67-69 octane	.04¾	.04⅞

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04¼	.04⅜
63-66 octane	.04½	.04⅝
67-69 octane	.04¾	.04⅞
70-72 octane (regular)	.05	.05⅛
60-62 400 grades:		
62 octane and below	.04¼	.04⅜
63-66 octane	.04½	.04⅝
67-69 octane	.04¾	.04⅞
70-72 octane (regular)	.05	.05⅛
64-66 375	.04⅛	.04¼
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.04½
65 octane		.06¾
68-70 octane		.06½

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06	.08
58-60 400, 65 oct. and higher	.07½	.09

EAST COAST (domestic)—

U. S. Motor, 65 and above:		
*New York (Bayonne)	.06	.06¼
Philadelphia	.06	.06¼
Baltimore	.06	.06¼
Charlesotn, S. C.	.06½	.06¾

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.04¼	.04⅜
60-64.9	.04⅝	.04⅝
65 octane and higher		.04⅝
68-70	.04⅞	.05⅛

Naphtha

PENNSYLVANIA (inland refineries)—

52-56 450 (blending)	.04¼	.04½

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.02⅝
Grade 18-55	.03⅛	.03¼

NORTH TEXAS—

Grade 26-70		.02⅝
Grade 18-55	.03⅛	.03¼

CALIFORNIA—

75-85 375-390	.06	.06¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.03

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03½	.03⅝
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.03⅝	.03¾
46-48 gr., 210-230 l.b.p., 480-max., e.p.	.04	.04⅛

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03½	.03⅝
42-44	.03¾	.03⅞

NORTH TEXAS—

41-43	.03½	.03⅝

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04	.04¼

ARKANSAS (Ark. and N. La. del.)—

41-43		.04¼

PENNSYLVANIA (inland refineries)—

45	.05	.05⅛
46	.05⅛	.05¼
47	.05¼	.05⅜

CHICAGO (Based on Group 3)—

41-43	.03¾	.03⅞
42-44	.03⅞	.04

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04¾	.05¼

NEW YORK (Bayonne, N. J.)—

41-43		.04¾

***GULF COAST (domestic)—**

41-43		.03½

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03⅝	.03½
No. 1 prime white, 38-42	.03½	.03⅝
No. 1 straw, 38-40	.03½	.03¼
No. 2 straw, 32-36	.02¾	.03
No. 2 dark, 32-36	.02⅝	.02¾
No. 3 zero to 15, 28-32	.02½	.02⅝
No. 3, 15 and above, 28-32	.02⅜	.02½

NORTH TEXAS—

No. 1 prime white, 38-42	.03½	.03⅝
No. 1 straw, 38-40	.03⅛	.03¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36		.03

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03⅜

CHICAGO (Based on Group 3)—

Range oil	.03⅝	.03⅞
No. 1 prime white, 38-40	.03½	.03⅝
No. 1 straw, 38-40	.03⅜	.03½
No. 2 straw, 32-36	.03¼	.03⅜
No. 2 dark, 32-36	.03⅛	.03¼
No. 3, zero to 15, 28-32	.03	.03⅛
No. 3, 15 and above, 28-32	.02¾	.02⅞

NEW YORK (Bayonne, N. J.)—

*No. 1	.04¼	.04⅜
*No. 2		.04
*No. 4		.04

*Barge deliveries ⅛ to ¼ cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02½	.02⅝
No. 4 low pourpoint, 24-28	.90	1.00
No. 4, 15 and above, 24-28	.80	.90
No. 5, low pourpoint, 18-22	.70	.75
Below 14 fuel oil, industrial	.45	.55

NORTH TEXAS—

U.G.I. gas oil	.02½	.02⅝
No. 4, low pourpoint, 24-28	.90	1.00
No. 5, low pourpoint, 18-22	.70	.75
Below 14 fuel oil, industrial	.45	.55

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02¾
No. 4, low pourpoint, 24-28	1.00	1.05
No. 4, 15 and above, 24-28	.85	.90
No. 5, low pourpoint, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pourpoint, 10-16	.60	.70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (inland refineries)—

36-40	.04½	.04¾

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.10	1.30
24 plus Diesel, per bbl.	.90	1.25
24 plus Diesel (bunkers)	1.10	1.30
12-16 (bunkers at tidewater)	.75	.90
10-16 (cargo lots)	.60	.80
12-17 (tankcars)	.50	.90
10-17 (high sulfur)	.45	.85
San Joaquin Valley:		
10-18 (tankcars)	.50	.75
24 plus Diesel, per bbl.	.90	1.20
San Francisco:		
24 plus Diesel, per bbl.	1.40	1.45
24 plus Diesel (bunkers)	1.45	1.55
10-16 (bunkers)	.90	.95

GULF COAST—

No. 2 fuel		.03
43-47 Diesel	.03¼	.03½
48-52 Diesel	.03½	.03⅝
53-57 Diesel	.03⅝	.03¾
Bunker C (bulk cargoes)	.77	.80
Bunker C (bunkers)	.80	.85

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04
28-30 Diesel (lighterage 6¼c per bbl.)		1.65
28-30 Diesel (tankcars)	.04¼	.04½
Bunker C (to ocean-going ships in N. Y. Harbor)		.95
Industrial fuel (tankcars)		.03¼

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.14¼	.16
150-160 D, 15-25	.13½	.15½
150-160 E, 15-25	.13	.15
100-110 D, 0-10		.14½
Steam refined:		
631 green (treated)		.12½
600 dark green (untreated)	.04½	.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pourpoint	.17½	.18½
15 pourpoint	.16½	.17½
25 pourpoint	.15	.15½
Steam refined:		
600	.08½	.10
650	.10½	.11
600 flash	.11	.12
630 flash	.13½	.14

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-6½		.13
400-3½		.14
100-2½ paraffin oil		.06
15-20 pourpoint:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.12½

GULF COAST—

Pale oils:		
200-3	.07	.07¼
300-3	.07½	.07¾
500-3½	.08½	.08¾
750-3½	.08⅝	.09¼
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¾	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pourpoint	.18½	.19
10 pourpoint	.18	.18½
15 pourpoint	.16½	.17
25 pourpoint	.15	.15½
200 vis. at 70° F., 3 color:		
Zero pourpoint	.19½	.20
10 pourpoint	.19	.19½
15 pourpoint	.18½	.19
25 pourpoint	.17	.17½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.0285	.03

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0270	.0275
124-126 (a.m.p.) w.c. scale	.0275	.0280

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0350
125-127 (a.m.p.) wax		.0360
128-130 (a.m.p.) wax		.0375
130-132 (a.m.p.) wax		.0435
133-135 (a.m.p.) wax		.0465
135-137 (a.m.p.) wax		.0490
124-126 (a.m.p.) w.s.	.0255	.0260
124-126 (a.m.p.) y.s.	.0250	.0255
Petrolatum in barrels, carload lots:		
Dark green	.02	.02⅛
Amber	.02¾	.02½
Extra amber	.02⅝	.02¾
Lily white	.05½	.05¼
Snow white	.06½	.06¼
Cream	.04½	.04¼

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.04¼	.04⅜
60-62 400	.04¼	.04⅜
61-63 390	.04⅜	.04⅝
64-66 375		.04

LOS ANGELES—

U. S. Motor grades:		
55-65 octane	.04½	.04¾
65-69 octane	.04¾	.05
Above 69 octane	.05	.05½

KEROSENE

GULF COAST—

41-43 prime white		.03½
41-43 water white		.03½

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbls.)—

Cylinder stocks:		
600 Warren E	.15	.15½
600 S.R. unfiltered	.16	.16½
630 S.R. unfiltered	.17	.17½
600 flash, S.R.	.17	.17½
630 flash, S.R.	.20½	.21
Bright stocks:		
8 color	.16¼	.16½

NEUTRAL OIL

200-3 color	.21½	.22
150-3 color	.19½	.20

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.0375
125-127 a.m.p.		.0387
128-130 a.m.p.		.0412
133-135 a.m.p.		.0437
135-137 a.m.p.		.0455
Crude scale:		
124-126 w.s.	.0255	.0260
124-126 y.s.	.0255	.0260

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas (Oct. 11, 1938)* $1.10
Van, Tex. (Oct. 11, 1938)* ..... .93
Talco, Tex. (Oct. 11, 1938)* ..... .55
Rodessa, Tex. .....
See North Louisiana gravity schedule
Cass and Panola counties, Texas ....
See gravity schedule
Altus and Tipton† .....See note below
Cayuga, Tex. (Feb. 15, 1939) $0.68
Clay Creek, Tex. ..... .85

*Humble Oil & Refining Co. †Gulf Refining Co. Pure Oil Co.'s Van price, 93 cents, effective Oct. 13, 1938.

Altus and Tipton, Oklahoma, starting at below 25° at 71 cents, 2-cent spread to 40° and above at $1.03. East Texas price met by all buyers posting prices. Talco price adopted by Talco Pipe Line on Oct. 11. Cayuga posted by Pan American Pipe Line Co. Clay Creek posted by Sun Oil Co.

Southwest Texas

Salt Creek, Darst Creek, Hilbig, Carroll, Clark and Zoboroski (Oct. 11, 1938)* $0.96
Pettus (Oct. 11, 1938)* 1.29
Flour Bluff (Dec. 3, 1938)* 1.23
Darst Creek (Oct. 12, 1938)† ..... .96
Darst Creek and Bruner (Oct. 13, 1938)‡ ..... .96
Luling (Oct. 12, 1938)† ..... .87
Lytton Springs (Oct. 12, 1938)† ..... .99
Mirando (Oct. 12, 1938)† ....
Government Wells (Oct. 13, 1938) ...
See note below

*Humble Oil & Refining Co. †Magnolia Petroleum Co. Pettus price adopted by Atlantic Crude Oil Purchasing Co. ‡Gulf Refining Co.

Government Wells posted by Sun Oil Co. starts at 20° at 77 cents, 3-cent spread to 24°-24.9° at 89 cents.

Gulf Coast

Conroe, Tex. (Oct. 11, 1938)* $1.27
Black Bayou and White Castle, La. (Oct. 11, 1938)† .....See note below
Gibson, La. (Oct. 11, 1938)† $1.04
Garden Island, La. (Oct. 12, 1938)‡ .. 1.24
Lafitte, La. (Oct. 12, 1938)‡ 1.04
Cleveland, Tex. (Oct. 12, 1938)¶ 1.14
Schwab, Polk County (Feb. 20, 1939) 1.00
Hardin, Tex. (Oct. 12, 1938)¶ 1.02
Tepetate, La. (Oct. 11, 1938)§ 1.03
Villa Platte, La. (Oct. 11, 1938)§ 1.03
Abbeville, La. (Jan. 1, 1939)§ .....
See note below
Bosco, La. (Dec. 3, 1938)‖ $0.93
Creole, La. (Oct. 13, 1938)‖ ..... .96
Gueydan, Sweet Lake, and Louise, La. (Oct. 13, 1938)‖ .....See note below
Vinton, Edgerly, Starks, Hackberry, Timbalier Bay, Quarantine Bay, and Grand Bay, La. (Oct. 13, 1938)** .....
Long Lake, Tex. (Oct. 13, 1938)** ... $1.08
Segno and Wing (Oct. 13, 1938)** ...
See note below
Livington (Oct. 11, 1938)† $1.10
Gibson, La. (Oct. 11, 1938)† 1.04

*Humble Oil & Refining Co. †Shell Oil Co., Inc. ‡Texas Co. §Continental Oil Co. ‖Pure Oil Co. ¶Magnolia Petroleum Co. **Gulf Refinery Co.

Black Bayou, etc., starts at below 20° at 79 cents; 20°-20.9°, 81 cents; 21°-21.9°, 83 cents; then a 3-cent spread to 26°-26.9°, 98 cents; then a 2-cent spread to 40° and over at $1.14. Abbeville starts at below 36°, 92 cents, 2-cent spread to 40° and over at $1.02. Gueydan, etc., starts below 20°, 79 cents, 3-cent spread to 26°-26.9° at $1, and 2-cent spread to 40° and over at $1.28. Segno and Wink take Gulf Refining Co.'s Gulf Coast prices. Vinton, Edgerly, etc., schedule starts at below 18°, 75 cents, 2-cent spread to 20°-20.9° at 82 cents; then a 3-cent spread to 26°-26.9° at $1; then a 2-cent spread to 34° and over at $1.16. Schwab posted by Shell Oil Co., Inc.

North Louisiana and Arkansas

Shreveport, La. (Apr. 18, 1939) $1.05
Smackover, Ark. (Oct. 5, 1938)* .... .73
Buckner, Magnolia, and Village, Ark. (Oct. 5, 1938)* .....See note below
Schuler, Jones sand .....See note below
Tullos and Urania $0.89
Cotton Valley, La. (distillate) (Dec. 23, 1938)* 1.20
Lisbon, La. (Apr. 29, 1939) .....
See note below

*Smackover posted by Standard Oil Co. of Louisiana, Oct. 5, 1938; by Magnolia Petroleum Co., Oct. 12; by Gulf Refining Co., Oct. 13; McMillan Refining Co. and Cross Refining Co. met price. Tullos and Urania posted by Hunt Oil Co. and Arkansas Fuel Oil Co.

Schuler Jones sand schedule starts at below 25°, 66 cents, with 2-cent spread to 40° and over at 98 cents; by Lion Oil Refining Co. on Oct. 5, 1938; Schuler light Morgan sand crude takes North Louisiana gravity scale along with El Dorado and Champagnolle; by Lion Oil Refining Co., Oct. 5; Buckner, Magnolia, and Village schedules posted by Standard Oil Co. of Louisiana and Lion Oil Refining Co. on Oct. 5; quote same prices as for Schuler Jones sand crude. Shreveport by Caddo Crude Oil Purchasing Co. and Atlas Oil Corp. Lisbon: Caddo Crude Oil Purchasing Co., posts below 34°, 73 cents; 34°-34.9°, 75 cents; 35° and above, 77 cents. Effective May 1, 1939, Gulf Refining Co. posted a flat price of 77 cents in Lisbon.

Middle Western States

OHIO OIL CO.
(Effective Oct. 13, 1938)

Illinois old fields $1.05
Illinois basin 1.15
Princeton, Ind. 1.05
Western Kentucky (Oct. 13, 1938)† . 1.10
Birk City, Ky. (Apr. 12, 1939)¶ 1.00
Greendale, Poster, Crystal and Wise, Mich. (Apr. 20, 1938)*‡ ..... .975
Buckeye, Bentley, Edenville, Beaverton, Mich. (Apr. 20, 1939)* ..... .95
Freeman-Redding, Mich. (Apr. 20, 1939)* ..... .89
West Branch and Arenac, Mich. (Apr. 20, 1939)* ..... .74
Allegan-Kent (Apr. 16, 1939)§ ..... .88
Bloomingdale (Apr. 10, 1939) ..... .88
Muskegon 1.00
Sherman, Mich. (Apr. 20, 1939)‡ .... .89
Eastern Kentucky:
Big Sandy River† 1.12
Kentucky River† 1.20

*Simrall Corp. †Ashland Refining Co. ‡Pure Transportation Co. pays above posted prices in Porter, Greendale and Sherman, effective Apr. 20. §Imperial Refining Co. ¶Sohio Oil Co. Bloomingdale posted by Tri-Lakes Corp.

West Texas

See gravity table.
Fisher County, Texas (Apr. 1, 1939) .
See note below
Pecos County (Oct. 11, 1938)* $0.78
Pecos shallow (Oct. 11, 1938)† ..... .65

*Shell Oil Co., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Oil Co.

Fisher County, Texas, by Shell Oil Co., Inc., below 25°, 68 cents; 25°, 70 cents, with 2-cent spread to 40° and over at $1.

Rocky Mountin States

Dry Creek, Wyo. (Oct. 11, 1938)* ... $0.92
Elk Basin, Wyo. (Oct. 11, 1938)*† ... .90
Grass Creek, light, Wyo. (Oct. 11 1938)*† ..... .90
Grass Creek, heavy (Oct. 11, 1938)† . .40
Lance Creek, Wyo. (Oct. 11, 1938)* . .77
Rock Creek, Wyo. (Oct. 11, 1938)* .. 1.00
Iles, light, Colo. (Oct. 11, 1938)† .... .98
Iles, heavy, Colo. (Oct. 11, 1938)† ... .92
Dutton Creek, Wyo. (Oct. 11, 1938)† .
See note below
Frannie, light, Wyo. (Oct. 11, 1938)† $0.55
Frannie, heavy, Wyo. (Oct. 11, 1938)† ..... .42
Hamilton dome, Wyo. (Oct. 11, 1938)† ..... .35
Midway, Wyo. (Oct. 11, 1938)† ..... .
See note below
Salt Creek Tensleep crude, Wyo. (Oct. 11, 1938)† $0.646
Salt Creek (Oct. 11, 1938) See note below
Canon City, Colo. (Oct. 11, 1938)‡ . $0.90
Florence, Colo. (Oct. 11, 1938)‡ ..... .90
Cat Creek, Mont. (Oct. 11, 1938)‡ ... 1.10
Big Muddy, Wyo. (Oct. 11, 1938)‡ ... .98
Lance Creek, Wyo. (Oct. 11, 1938)‡ . .77
Lea County, New Mexico .....
See West Texas gravity schedule‡
Artesia, Jackson and Maljamar .....
See gravity table‡
Fort Collins and Wellington, Colo. ..
See gravity table‡
Eddy County, New Mexico (Oct. 11, 1938)§ $0.77

*Ohio Oil Co. †Stanolind Oil & Gas Co. ‡Continental Oil Co. §Sinclair Prairie Oil Marketing Co.

Dutton Creek and Salt Creek Tensleep crudes start at below 29°, 86 cents, 2 cents spread up to 40° and over at $1.10. Salt Creek crude, excepting Tensleep, takes Standard Oil Co. of Indiana's Oklahoma-Kansas prices. Stanolind Oil & Gas Co., effective Oct. 11, discontinued posting prices in Greybull-Torchlight, Wyoming, and Hogback and Hospah, New Mexico.

Eastern States

SOUTH PENN OIL CO.
(Effective Mar. 6, 1939)

Pennsylvania Grade oil in National Transit lines (Bradford field) $2.00
Pennsylvania Grade oil in Southwest Pennsylvania lines 1.65
Pennsylvania Grade oil in Eureka Pipe Line lines 1.59
Pennsylvania Grade oil in Buckeye Pipe Line lines 1.55
Corning grade oil in Buckeye Pipe Line Co. line (Jan. 24) 1.02

TIDE WATER ASSOCIATED OIL CO. and NEW YORK TRANSIT CO
(Effective Mar. 6, 1939)

Bradford, Pa. $2.00
Allengany, N. Y. 2.00

PENNZOIL CO.
(Effective Mar. 6, 1939)

Group A $1.95
Group B 1.94
Group C 1.93
Group D 1.92
Group E 1.90

PURE OIL CO.
(Effective Mar. 6, 1939)

West Virginia $1.59

Canada

ONTARIO
(Oct. 25, 1938, by Imperial Oil, Ltd.)

Petrolia $1.90
Oil Springs 1.97

TURNER VALLEY
(Jan. 5, 1938, by Imperial Oil, Ltd.)

Clear naphtha and discolered naphtha, 65° and higher $2.14
Discolored naphtha and crude oil, 40°-40.9° 1.14
Increasing 2 cents for each degree gravity with top price for 64°-64.9° 1.62
These prices f.o.b. producers' field tankage.

Rocky Mountain Runs

Production estimate for week ended June 3:

	Bbl.
WYOMING	
Salt Creek	14,940
Big Muddy	1,190
Byron	3,320
Dallas Derby	450
Elk basin	570
Frannie	1,150
Garland	2,430
Grass Creek	1,770
Hamilton dome	1,880
LaBarge	950
Lance Creek	16,460
Lost Soldier	2,010
Mahoney	340
Medicine Bow	2,030
Oregon basin	2,640
Osage	750
Quealy dome	630
Rock River	3,020
Wertz	1,630
Miscellaneous	1,200
Total Wyoming	59,360
MONTANA	
Border	60
Cat Creek	550
Cut Bank	8,580
Dry Creek	1,170
Kevin-Sunburst	3,170
Pondera	580
Total Montana	14,650
NEW MEXICO	
Cooper	4,470
Eaves	880
West Eunice	110
Eunice	24,180
Hardy	3,650
Hobbs	13,620
Jal	730
Langlie	5,720
Lynch	540
Lynn	860
Mattix	4,620
Monument	25,060
North Lynch	40
Penrose	5,720
Rhodes	140
Skaggs	90
Skelly	1,910
South Eunice	4,000
South Lovington	370
Vacuum	10,240
Artesia-Maljamar	8,920
Getty	100
Hogback	200
Rattlesnake	570
Table Mesa	20
Total New Mexico	116,760
COLORADO	
Total Colorado	3,800
Total Rocky Mountain region	194,570

Crude Prices by Gravities

	1 Oklahoma	2 Oklahoma and Kansas	3 North and Central Texas	4 Louisiana and Arkansas	5 East Central Texas	6 Gray County, Texas	7 Hutchinson and Carson counties, Texas	8 Raccoon Bend, Satsuma and Tomball, Texas	9 West Texas and Lea County, N. M.	10 Fort Collins and Wellington, Colo.	11 Anahuac and Dickinson, Mirando, Duval, Texas	12 Refugio, Texas	13 Gulf Coast Texas	14 Cass and Panola counties, Texas	15 Beaumont and West Beaumont, Texas	16 Lockport, Iowa, Cameron Meadows, Louisiana	17 Artesia, Jackson and Maljamar, N. M.	18 Iowa, Louisiana
Below 18	....	....	....	....	....	....	....	....	$.53	....	$.74	$.79	$.79	....	....	$.74	....	$.75
18-18.9	....	....	....	....	....	....	....	....	.53	....	.74	.79	.79	....	$.79	.76	....	.77
19-19.9	....	....	....	....	....	....	....	....	.55	....	.77	.82	.82	....	.82	.78	....	.79
20-20.9	$.60	$.70	....	....	....	....	....	....	.57	....	.80	.85	.85	....	.85	.80	....	.81
21-21.9	.63	.72	....	....	....	....	....	....	.59	....	.83	.88	.88	....	.88	.82	....	.83
22-22.9	.66	.74	....	....	....	....	....	$.96	.61	....	.86	.91	.91	....	.91	.85	....	.86
23-23.9	.69	.76	....	....	$.78	....	....	.97	.63	....	.89	.94	.94	....	.94	.91	....	.92
24-24.9	.72	.78	$.71	....	.80	....	....	.99	.63	....	.89	.94	.94	$.73	....	.91	....	.92
Below 25	....	....	....	$.73	....	....	....	....	....	....	....	....	....	....	....	....	....	....
25-25.9	.75	.80	.73	.75	.82	....	....	1.01	.65	....	.92	.97	.97	.75	.97	.94	....	.95
26-26.9	.78	.82	.75	.77	.84	....	....	1.03	.67	....	.95	1.00	1.00	.77	1.00	.97	....	.98
27-27.9	.81	.84	.77	.79	.86	....	....	1.05	.69	....	.97	1.02	1.02	.79	1.02	.99	....	1.00
28-28.9	.84	.86	.79	.81	.88	$.72	$.67	1.07	.71	$.81	.99	1.04	1.04	.81	1.04	1.01	$.61	1.02
29-29.9	.87	.88	.81	.83	.90	.74	.69	1.09	.73	.83	1.01	1.06	1.06	.83	1.06	1.03	.63	1.04
Below 30	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
30-30.9	.90	.90	.83	.85	.92	.76	.71	1.11	.75	.85	1.03	1.08	1.08	.85	1.08	1.05	.65	1.06
31-31.9	.92	.92	.85	.87	.94	.78	.73	1.13	.77	.87	1.05	1.10	1.10	.87	1.10	1.07	.67	1.08
32-32.9	.94	.94	.87	.89	.96	.80	.75	1.15	.79	.89	1.07	1.12	1.12	.89	1.12	1.09	.69	1.10
33-33.9	.96	.96	.89	.91	.98	.82	.77	1.17	.81	.91	1.09	1.14	1.14	.91	1.14	1.11	.71	1.12
34-34.9	.98	.98	.91	.93	1.00	.84	.79	1.19	.83	.93	1.11	1.16	1.16	.93	1.16	1.13	.73	1.14
Below 35	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.00	1.00	.93	.95	1.02	.86	.81	1.21	.85	.95	1.13	1.18	1.18	.95	1.18	....	.75	....
36-36.9	1.02	1.02	.95	.97	1.04	.88	.83	1.23	.87	.97	1.15	1.20	1.20	.97	1.20	....	.77	....
37-37.9	1.04	1.04	.97	.99	1.06	.90	.85	1.25	.89	.99	1.17	1.22	1.22	.99	1.22	....	.79	....
38-38.9	1.06	1.06	.99	1.01	1.08	.92	.87	1.27	.91	1.01	1.19	1.24	1.24	1.01	1.24	....	.81	....
39-39.9	1.08	1.08	1.01	1.03	1.10	.94	.88	1.29	.93	1.03	1.21	1.26	1.26	1.03	1.26	....	.83	....
40 and over	1.10	1.10	1.03	1.05	1.12	.96	.91	1.31	.95	1.05	1.23	1.28	1.28	1.05	1.28	....	.85	....

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1939 High	1939 Low	Week ending June 3 High	Week ending June 3 Low	Week ending June 3 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
70	50	68⅛	66¼	66¼	Amerada Corp.	788,675	N.P.	50cQ	1-31-39	$2.00	$2.07	$3.04	78	55	111⅞	51½
23½	18⅛	21	20½	20½	Atlantic Refining	2,663,999	$25	25cQ	6-15-39	1.00	1.40	3.51	27⅝	17⅜	37	18
21½	10⅞	14½	13½	13⅞	Barber Asphalt Co.	390,223	$10	75c	12-16-37	....	—.85	1.91	23⅜	12⅛	43⅜	10⅛
19½	12⅜	14⅜	14¼	14½	Barnsdall Oil Co.	2,250,344	$5	25cQ	2-1-39	1.00	1.26	.85	21⅝	10⅛	35¼	10
9¼	7	8	7½	7½	Consolidated Oil Corp.	13,751,846	N.P.	20cQ	5-15-39	.80	.55	1.48	10⅜	7	17⅞	7
31½	21⅛	24⅜	23¼	24	Continental Oil of Delaware	4,682,581	$5	25cQ	6-27-39	‖1.00	1.10	2.98	35¾	21¼	49	24
8⅜	4⅞	6½	6	6	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	.83	.94	9¾	5	17⅝	4⅜
20¼	12⅜	16	15⅝	16	Lion Oil Refining	435,815	N.P.	25cQ	4-20-39	1.00	2.09	2.17	25½	15⅝	34	12½
16½	11⅛	13⅜	13¼	13¼	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-39	.60	.56	2.86	22⅝	12¼	35⅜	14
14⅞	10⅜	12⅜	12	12	Mission Corporation	1,379,245	$10	25c	6-29-39	1.00	1.04	1.31	17⅜	10⅝	34	15
15½	6½	9	8½	8½	National Supply	1,155,517	$10	$2 pf.‡	12-22-37	....	—.79	4.90	23	12½	41⅜	17⅝
10¼	6⅝	7⅜	7	7	Ohio Oil Co.	6,563,377	N.P.	20c	12-15-38	.20	.25	1.30	14⅞	8⅜	22⅞	8
34⅜	27½	9⅞	9⅞	9⅞	Pacific Western Oil	1,000,000	N.P.	50c	12-20-38	.50	1.22	1.39	15⅞	10¼	29¾	11⅜
6¾	5½	..	..	..	Pan American Pet. & Trans.	4,702,945	$5	$1*	12-21-37	....	.08	1.18	9¼	6¼	17⅛	7
43¾	31¼	35⅞	35⅛	35½	Phillips Petroleum	4,449,052	N.P.	50cQ	6-1-39	‖2.00	2.03	5.42	44⅜	27¼	64	30⅛
22½	17¼	21⅜	20½	20½	Plymouth Oil Co.	1,006,200	$5	35cQ**	6-30-39	1.40	2.59	2.85	25⅝	15	29⅞	13
11¼	7	8	7½	7⅝	Pure Oil Co.	3,982,031	N.P.	25c	12-1-37	....	.38	2.15	13½	8¼	24⅜	8⅜
10¼	6⅝	8⅛	8	8⅛	Richfield Oil Corp.	4,010,000	N.P.	50c	12-21-38	.50	.51	.35	9⅞	5	6½	4⅛
22⅜	16⅛	20	19	19½	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	6-15-39	1.00	1.52	1.97	27½	15½	54⅛	16
15⅛	10⅝	12¼	11⅝	12¼	Shell Union Oil	13,070,625	N.P.	35c	12-20-38	.70	.72	1.44	18⅝	10	34⅜	14⅞
29½	18½	20⅜	20	20¼	Skelly Oil	995,349	$15	50c	12-15-38	1.00	2.27	6.07	34⅜	18½	60⅝	26½
13⅜	10½	12⅛	11½	12	Socony-Vacuum	31,206,071	$15	25cSA	3-15-39	.50	1.29	1.82	16⅜	10⅜	23¼	13
30½	25¼	26⅜	25¾	26½	Standard Oil of California	13,004,153	N.P.	30cQ†	3-15-39	1.40	2.22	3.17	34⅞	25⅛	50	27⅛
29⅛	23¼	25⅞	25¼	25⅞	Standard Oil (Indiana)	15,272,020	$25	25cQ	6-15-39	1.00	1.82	3.66	35½	24⅜	50	26½
50⅝	46	..	..	..	Standard Oil of Kansas	106,190	$10	$2	12-8-38	2.00	5.25	6.93	50½	32½	43	30⅝
53¼	41⅞	45	43⅛	43¼	Standard Oil of New Jersey	26,618,065	$25	50c§	12-15-38	$1.50	2.86	5.64	58⅜	39¾	76	42
66	46	50⅜	49¾	49¾	Sun Oil	2,316,484	N.P.	25cQ	6-15-39	1.00	1.07	3.86	65⅛	45	77½	44½
3⅛	2	2¼	2⅛	2⅛	Superior Oil Corp.	1,388,079	$1	10c	12-28-38	.10	.24	.32	4⅛	1⅜	7⅜	1⅛
48¼	35	40½	38⅝	39½	Texas Corp.	10,876,882	$25	50cQ	7-1-39	2.00	2.13	5.02	49⅝	32⅝	65⅛	34¾
5⅜	3½	4⅛	4	4	Texas Gulf Producing Co.	888,142	N.P.	10c	6-15-39	.15	.86	.68	5⅞	2⅝	9⅝	2
10⅛	7½	8	7¾	7¾	Texas Pacific Coal & Oil	888,236	$10	10c	6-1-39	.40	1.16	1.11	12½	7	16⅝	5⅜
14¼	11¼	12⅜	12¼	12⅜	Tide Water Associated	6,375,253	$10	25c	6-1-39	1.00	1.28	2.08	15⅜	10⅛	21⅝	13¼
19¾	16¼	16⅝	16¼	16¼	Union Oil of California	4,666,270	$25	25c	5-10-39	1.20	1.47	2.58	22½	17⅛	28¼	17½
23⅝	20⅛	22⅝	21½	22⅝	Union Tank Car Co.	1,177,381	N.P.	30cQ	3-1-39	1.30	1.16	1.70	23½	20	31½	22
3¾	2½	3¼	3⅛	3⅛	Wilcox Oil & Gas	487,568	$5	....	5-10-28	....	.52	.24	3½	1⅝	6¼	1⅜

*Payable in 3½ per cent notes. †Includes extras. ‡One-tenth share $2 preferred stock. §Also 1½ per cent stock dividend. ‖Also right to subscribe to bonds. ¶Also 1 per cent in stock. **Also 2 per cent in stock. —Deficit.

New York Curb Exchange

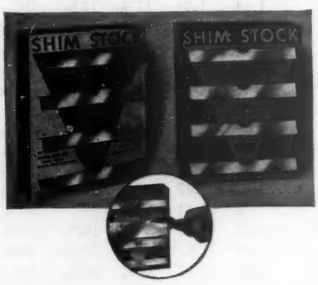
1939 High	1939 Low	Week ending June 3 High	Week ending June 3 Low	Week ending June 3 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
9	5½	7½	7¼	7¼	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.10	—$0.22	$0.27	11¾	5	10	6⅝
7¼	3½	4¼	4	4	Bridgeport Machine Co.	270,000	N.P.	$1.25	12-30-37	....	—.14	1.90	10¼	4⅞	21⅝	7
34⅜	27¼	33	33	33	Buckeye Pipe Line Co.	200,000	$50	50c	3-15-39	2.00	2.36	4.02	39	22½	51½	36
130	110	114½	114½	114½	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	6-26-39	6.50	5.32	6.73	128	97	112	95½
9¼	5⅞	6⅝	6⅛	6¼	Cities Service (new)	3,704,067	$10	....	6-1-32	....	.23	1.02	11	5⅛	5⅝	1½
1⅛	½	1⅛	1⅛	1	Cosden Petroleum	462,551	$1	....	.....	....	....	.19	2⅜	⅞	5½	1½
23¾	17½	20⅞	20⅛	20⅞	Creole Petroleum	6,975,383	$5	50cSA†	6-15-39	1.00	1.64	1.61	27½	17½	38⅜	20¼
7⅛	5	5¼	5	5	Darby Petroleum	351,390	$5	25cSA	1-15-39	.50	....	1.36	10¼	5½	18⅝	6½
2⅜	1⅝	2⅜	2¼	2¼	Derby Oil & Refining	263,162	N.P.	....	.....	....	—.91	1.34	3½	1½	8⅜	2¼
20	17½	..	..	..	Eureka Pipe Line	50,000	$50	50c	2-1-39	3.00	—.37	—.12	31	16	47½	24½
40	29¼	33¾	32½	33¼	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-39	1.00	1.43	3.51	46⅞	33	63½	33
69¾	53	60	57	60	Humble Oil & Refining	8,987,840	N.P.	37½c	7-2-39	3.00	3.98	5.22	72⅝	56	87	54⅞
17	14⅜	16¼	15	15⅜	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	6-1-39	1.25	.96	.98	19½	14⅛	24¼	14½
7	5⅝	..	..	..	Indiana Pipe Line	300,000	$10	30c	5-15-39	.50	.47	1.03	9⅜	6	15	5⅜
27½	22⅜	25⅜	23⅝	23⅞	International Petroleum	14,324,088	N.P.	1.00†‡	6-1-39	2.50	1.98	....	31¼	21	39½	23½
3½	2¼	2⅝	2⅝	2⅝	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	.10	.14	.17	5	2⅛	8¾	2⅝
9½	7⅛	9⅛	9⅛	9⅛	Lone Star Gas	5,553,747	N.P.	20c	4-20-39	.60	.88	1.14	10⅜	6⅝	14¼	5¼
7¾	4⅞	5⅜	5⅜	5⅜	Louisiana Land & Exp.	2,977,449	N.P.	10cQ	3-15-39	.45	.45	.58	9⅜	6½	15¼	6¾
8¾	7	7⅞	7½	7½	Midwest Oil Co.	998,474	$10	50c	12-15-38	1.00	.93	1.14	9¾	6⅝	14⅝	6¼
5½	4⅞	5⅜	5½	5⅜	Mountain Producers	1,593,584	$10	30cSA	6-15-39	.60	.62	.76	5¾	4½	7⅞	4¼
13¼	11¼	12¼	11½	11¾	National Fuel Gas	3,810,183	N.P.	25cQ	4-15-39	1.00	.84	.96	14⅝	11½	19½	12
8½	7¼	..	..	..	National Transit	509,000	$12.50	35c	6-15-39	.75	.88	1.19	9¼	6½	12½	7¼
1¾	1½	..	..	..	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	2⅝	1½	5	1⅛
4⅞	4	..	..	..	New York Transit	100,000	$5	15c	4-15-39	.25	.16	.49	4½	3½	5⅝	3⅞
5¾	4½	..	..	..	Northern Pipe Line	120,000	$10	15c	6-1-39	.35	.24	.78	6	4	12¾	5¾
7⅝	4¼	6¼	5⅞	6	Pantepec Oil	2,857,000	$1	....	.....	....	....	....	7¾	3½	9⅝	2¾
2⅝	1¼	2⅛	2	2	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.17	—.17	4½	1⅝	12⅝	2
3	2⅛	2⅜	2⅜	2⅜	Ryan Consolidated	298,931	N.P.	....	.....	....	.29	.46	4	2⅛	6½	2¼
4	3½	..	..	..	Southern Pipe Line	100,000	$10	15cSA	3-1-39	.30	—.27	.85	5⅜	3¼	7¼	3⅞
34⅞	27¾	29¾	29¾	29¾	South Penn Oil	1,000,000	$25	37½cQ	3-31-39	1.75	1.44	4.64	39	28¾	56	35
19	17	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50cQ	4-1-39	2.00	—.41	.95	22¼	16½	42	20
18¾	17¼	18⅛	17¾	17¾	Standard Oil of Kentucky	2,604,790	$10	25c	6-15-39	1.25	1.45	1.60	18¾	15	21⅛	17¾
10½	6	7⅞	7⅞	7⅞	Standard Oil of Nebraska	161,403	$25	25c	3-29-37	....	—.69	—.58	8¾	5½	13¾	8
21¼	17	18¾	18¾	18¾	Standard Oil of Ohio	753,740	$25	25c	3-15-39	1.00	1.81	3.67	22¾	16¼	45	16
2⅝	1⅞	2	2	2	Sunray Oil	2,007,076	$1	5c	4-27-39	.05	.23	.42	3¼	2	4⅞	2
4	2⅝	3	3	3	Texon Oil & Land	936,024	$2	10c	6-30-39	.60	.56	.51	5¼	3½	7⅝	2
5½	2½	3¾	3¾	3¾	Transwestern Oil Co.	750,000	$10	....	.....	....	—.12	.48	7⅝	4¼	13⅞	4⅝
3⅜	1⅝	2⅛	2	2	United Gas Corp.	7,818,959	$1		.....	....	—.51	.25	5¼	2⅝	13⅞	3

†Includes extras. ‡Payable in Canadian funds. ‖Of which $1 was in preferred stock. — Deficit.

New or Improved Equipment

Thin Shim Stock Simply Pulled Out and Cut Off as Needed

The popularity of Laminated Shim Co.'s new economy carton, containing a handy assortment of the most frequently used thicknesses of thin brass shim stock, has resulted in a demand for thin steel shim stock in a similarly convenient assortment and container. Kit No. 88-S is there-



fore made available. It consists of four 6- by 50-inch rolls of precision steel shim stock, in thicknesses of .001, .002, .003 and .005 inch, all packed in the new economy carton. This carton stands on self-easel or may be hung on the wall. Shim stock, of any roll, is simply pulled through a slot in the carton and cut off as needed, avoiding waste, wrinkling or damage in handling, and saving time. The .001-inch thick steel shim stock is now readily obtainable.

Laminated Shim Co. announces that its regular line of 6- by 100-inch brass or steel shim stock rolls, each packed in slotted carton, has been enlarged.

Phillips Joins Bridgeport

Jack Phillips, widely known pumping-equipment salesman, is now affiliated with Bridgeport Machine Co., Wichita, Kans., as special oil-field representative furthering the sales of surface pumping equipment.

Mr. Phillips first began work as a salesman for the Federal Belt Clamp Co. in 1924. This company sent him into all active oil states and Canada as missionary salesman and technical man, and 1926 saw him with the Westinghouse Electric & Manufacturing Co. as special oil-field representative. In 1936 he went with the American Manufacturing Co. of Texas, in charge of all sales in Kansas. Mr. Phillips' headquarters will be in the Bridgeport main office at Wichita, Kans.

"Smith Casing" a Distinctive Book

It is not easy to present a highly technical subject so that it will satisfy the technically trained mind and at the same time invite the layman. The 58-page book on "Smith Casing," just published by A. O. Smith Corp., Milwaukee, Wis., does it. Its story is told in language so simple, and the vital importance of casing strength is made so clear, that the oil producer who scans the opening lines, "Outlining Our Message," is likely to read every page before he lays the volume down, and then put it where he can reach it readily for further study. A new approach to the problem of collapse, a clearer picture of setting depths, an announcement of a stronger casing for the deeper holes—these are the subjects discussed. The stated purpose is not to cover the mathematics of casing design, but to offer a simplified exposition of the fundamentals involved. The task has been accomplished with extraordinary skill and distinctiveness. Life and interest have been imparted to a discussion which in less capable hands might have attracted none but the engineer.

Worthington's Diesel Embodies Simplicity and Compactness

Worthington Pump & Machinery Corp., Harrison, N. J., is introducing its new Type CC totally enclosed, direct-injection Diesel engine. Of the four-cycle, trunk-piston type, using a direct fuel-injection system, the engine is said to be of the simplest and most compact design consistent with high efficiency and complete accessibility. All moving parts are wholly enclosed.

The cone-type cylinder-head featured in the CC

engine is a Worthington development which is said to have eliminated head breakage due to load and temperature stresses. Full provision for expansion is made in this construction, and the need for a gasket between the cylinder-head and the liner is removed.

This engine has been developed for installation where continuous, heavy-duty loads are to be carried. It is adaptable to pumps, compressors and other power drives. It is particularly suitable for oil-field work, excavators and other installations where abrasive materials may be present in the air.

Here and There With Men Who Manufacture Equipment

Marvin W. Smith, manager of engineering of Westinghouse Electric & Manufacturing Co., has been elected a vice president. He will direct all the company's engineering activities.

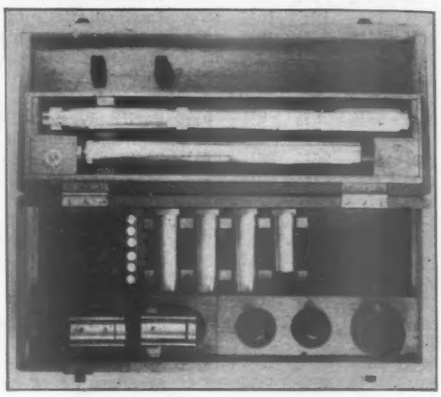
Robert A. Neal, formerly assistant to the vice president, has been appointed manager of the switchgear division of Westinghouse Electric & Manufacturing Co.

Edwin H. Fitler Co., pipe manufacturer, has completed a modern office building at its main plant in Tacony Street, Frankford, Philadelphia, Pa. Ample warehousing facilities together with strategic location allow rapid delivery service by truck, train, and steamship.

Instrument for Surveying Wells Is Put on Market by Ruska

Walter Ruska & Co., Inc., 2332 Bellaire Boulevard, Houston, Tex., has put on the market a new photographic well-surveying instrument.

The Warusco borehole clinometer can be fur-



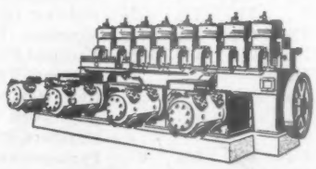
nished with compass as well-survey instrument for measuring the degree of declination and direction of declination. The instrument is 1-in. o.d. and 26 in. long. It records photographically and furnishes a direct reading chart of ¾-in. diameter. The instrument, designed to run inside the drillstem, will pass through a 3-in. regular tool-joint.

As borehole clinometer the instrument is enclosed in a steel shell 1⅛ in. o.d. and 3¼ ft. long, weighing approximately 7½ lb. As magnetic deviation indicator it is enclosed in a duraluminum shell 1⅝ in. o.d. and 3¼ ft. long, weighing approximately 4 lb. The instrument proper is furnished in a mahogany case 7½ by 6 by 18 in., weighing approximately 16 lb.

The instrument is made up of three sections. The first contains a clock, two small flashlight cells and a light source with reflector. The second contains a magnetic compass, and the third consists of the slug-trap and the angle units.

"Angle" Compressor of Larger Size Introduced by Clark

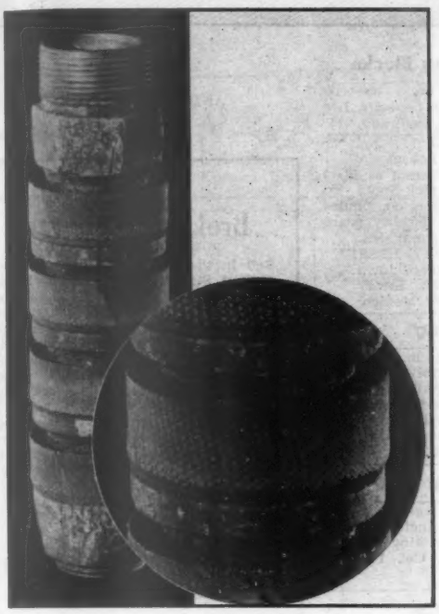
Clark Bros. Co., Olean, N. Y., has announced that its right-angle compressor, built heretofore in 2-, 3-, 4-, 5-, and 6-cylinder sizes, is to be offered also in an 8-cylinder, 800-hp. size. This larger size



is designed especially to meet a demand of the larger natural gas companies which have found the angle type of compressor especially satisfactory for booster-station service. The 8-cylinder size, however, will be suitable for many types of service. Two of the 8-cylinder angles have been sold to M. W. Kellogg Co., of New York, to be installed in a Texas refinery. It is stated that with the new 8-cylinder angle it will be possible to install a 3,200-hp. gas-booster station in a floor space 24 by 105 ft.

Neoprene Valve-Cups Promise to Overcome Difficulties

One of the difficulties encountered in pumping oil with valve-cups is their tendency to flop or



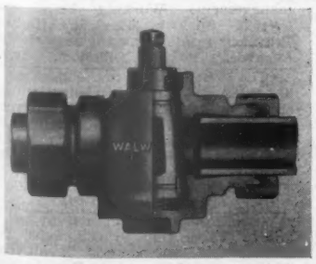
turn inside out when withdrawn from the working barrel. It is difficult to obtain the desired stiffness of side wall to prevent flopping and still have a cup sufficiently pliable to expand to the working barrel at any given pressure. This is particularly true at low or medium pressures.

Composition cups are widely used because, under many pumping conditions, they approach these characteristics more closely than do leather cups. Still, leather cups have desirable features which have not been duplicated in other types, and they are frequently used to advantage in low-pressure pumping.

The limitations of previous types of cups, the known resistance of Neoprene (manufactured by E. I. du Pont de Nemours & Co., Inc.) to the effects of oils, and the strength, resilience, flexibility and abrasion resistance of Neoprene composition suggested valve-cups which used a Neoprene composition as the binder to see if they would answer the problem. Such cups (illustrated) have been introduced by Lea Fabrics, Inc., Newark, N. J. The first tests of these cups, made in Pennsylvania fields, are said to give exceptional promise as to their suitability in all oil-pumping services.

Lubricated Cock Designed for General and Meter Service

A new lubricated service cock with Dresser ends, especially adapted to underground gas service, has been announced by Walworth Co., 60 East Forty-second Street, New York. It is of the inverted plug type, completely lubricant-sealed in either open or closed position. Featuring ease of operation, a turn or two of the lubricant screw or a slight tapping of the plug shank is all that is needed to release the plug after years of disuse.



The new service cock is suitable for general and meter service as well as for underground hookups on pressures up to 50 lb. The steel-iron bodies and bronze plugs are carefully fitted for tightness. A rustproof steel spring under the plug holds the cock tight against the maximum rated pressure.

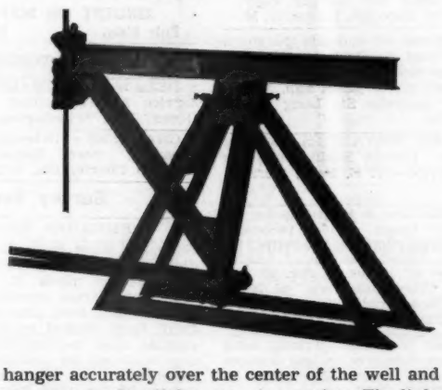
An interesting feature is the "stab" fit connection provided by the Dresser ends, plain-end pipe being merely stabbed in and the end nuts tightened. This eliminates necessity for pipe-threading tools at the job and also eliminates the weakened pipe wall resulting from threading. It permits making a connection on pipe ends, not in alignment.

Late Mechanical Features Are Embodied in National's Jack

The National Supply Co. has added to its Type D line of pumping-jacks the Type D-65. It is of the underpull pattern, with a rated dynamic polish-rod load of 6,500 lb. Rated stroke is 36 in., although longer strokes may be taken with proper attention to expansion and contraction in rod-lines.

The entire jack is fabricated from structural steel by electric welding for greater strength and rigidity. The frame is made in halves for ease in handling, and the beam is assembled in one solid unit with provisions for bolting on the various bearing parts. This construction simplifies the assembly and alignment of the jack on the foundation.

The jack-beam is adjustably mounted on the frame, permitting a longitudinal and angular movement that enables the operator to align the



hanger accurately over the center of the well and compensates for slight errors in erection. The link-type polished hanger closely approximates straight lift and is easy to lubricate. A feature of the linkage design is that any wear that eventually takes place will not affect the accuracy of the motion. All bearings are enclosed. The pull-bar and saddle-bearings are of the oilbath type, equipped with oil seals.

Trade Literature

WALWORTH CO., 60 East Forty-second Street, New York.—April-May issue of Walworth Today.

INTERNATIONAL HARVESTER CO., INC., 180 North Michigan Avenue, Chicago.—Book of blank forms in which owner of tractor or power unit may keep a record of power costs.

LINK-BELT CO., 307 North Michigan Avenue, Chicago.—General Catalog 800 of power-transmission machinery and equipment for handling, drying, cooling, and preparing materials mechanically, with engineering data.

JOHN T. RYERSON & SON, INC., Sixteenth and Rockwell Streets, Chicago.—Ryerson physical properties chart, giving tensile strength, yield point, elongation, and other properties of about 50 types of steel.

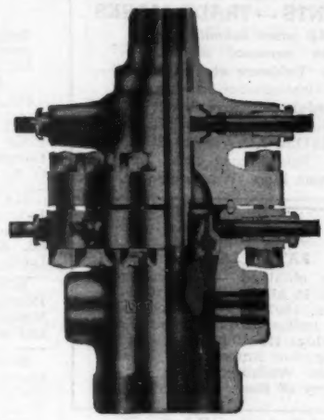
BONNEY FORGE & TOOL WORKS, Allentown, Pa.—Catalog 39, covering alloy steel sockets, wrenches, and small hand tools.

ATLAS POWDER CO., Wilmington, Del.—Booklet, "Ways and Means to Greater Safety."

O-C-T Tubing-Heads Facilitate Completions Under Pressure

Oil Center Tool Co., Houston, Tex., announces two new tubing-heads, both designed to provide the utmost in safety and efficiency in completing wells under pressure.

The cross-section drawings illustrate their unusual features. Retractable hanger-seats permit

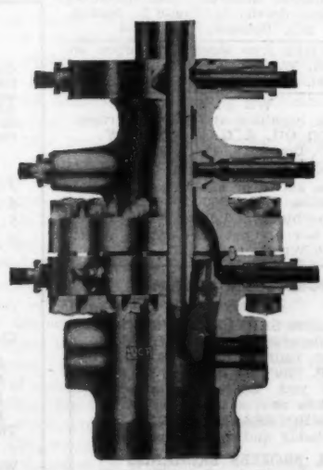


Type T-16-E

tubing-collars and tubing-hanger to pass through the head to facilitate washing behind liner and setting packer.

After drilling plug and running in a few joints of tubing with liner and packer, the blowout-preventer equipment is replaced by the christmas tree, which is made up on the top tubing-head connection. The christmas tree is stripped over the tubing and bolted down on top of the A.P.I. steel ring gasket on the body of the head. A Neoprene stripper pack-off in the body of the tubing-head permits running tubing to bottom in safety, readily passing tubing-collars and the tubing-hanger and serving as a stuffing-box while washing behind liner. After the washing operation is completed and the packer is set, tubing is raised to the suspension point and retractable seats are screwed in to engage the tubing-hanger.

While the Type T-16-E tubing-head is provided with a threaded top connection, the Type T-16-F is provided with a flanged top which is grooved for an A.P.I. steel ring gasket. Lock-down screws are provided in the top flange to aid in compressing the hanger packing to effect a seal, whereas



Type T-16-F

packing in the tubing-hanger of the Type T-16-E is compressed only by means of the weight of the tubing string. Both heads are made for 3,000-lb. working pressure, 6,000-lb. test pressure.

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WANTED party to promote drilling proposition in Idaho. Tools on property. Strictly wildcat. Good geology. Box K-132, The Oil and Gas Journal, Tulsa, Okla.

OIL AND GAS leases, near wells on structure. Forest City Basin. Box 423, St. Joseph, Mo.

Leases and Drilling Blocks

ALBERTA—CANADA
Leases and Drilling Blocks
Tell us your requirements and receive promptly full and accurate information.
OILFIELDS INFORMATION AGENCY
L. A. Duncan and C. T. Fillan
810 Lancaster Bldg., Calgary, Alberta.

OIL Leases—Royalties, North Missouri, Linn; Sullivan; Adair; Mercer; Grundy; Daviess; Putnam; Harrison Counties. Write O. L. Keesee, Milan, Mo.

HAVE 83 acres in proven Vigo County, Indiana field. Standard Oil pipeline runs through this property. Drilling deal wanted. M. E. DRAKE, 7024 Amherst, St. Louis, Mo.

WRITE—C. L. Raines, P. O. Box 286, Bowling Green, Ky. regarding drilling blocks in Allen, Warren, Logan, Barren, and Monroe Counties, Kentucky.

MONTANA Syndicate with 40,000 acres leased, partly completed well, excellent oil and gas showings, needs help to complete. Write Drawer H, Neillsville, Wisconsin.

MISSOURI leases in blocks and scattered acreage. HARRAH & FRITH, Chillicothe, Missouri.

YOAKUM CO., Tex., 10 yr. oil lease on 980 acres in Sec. 596 and 597 for sale. Tract is ¾ x 2 miles and traverses high trend near Roberts pool. Owner, DR. J. A. ROBINSON, 233 21st Place, Santa Monica, California.

NEW MEXICO WEEKLY OIL SCOUT REPORT.—Send for sample copy. Roy G. Barton, Box 968, Hobbs, N. M.

FOR LEASE for oil and gas purposes, 240 acres of land in Anderson County, Kansas. Oil was drilled in on this farm at a shallow depth a few years ago. W. M. Dary, 3605 E. Anaheim St., Long Beach, Calif.

LEASES AND ROYALTIES. Several thousand acres. Illinois Basin. Small or large tracts. Write—W. E. Beck, Herrick, Illinois.

GREAT possibilities in Kentucky for repressuring old leases. Good recovery. Write W. A. Wainright, Jacksonville, Ill.

WILL sell 55 ac. leases of Sec. 27 and 14, Twp. 3n, Claremont Twp. of Richland Co., Ill. Chosen drlg. site.
G. HEDELIN, Rockford, Illinois.

EAST TEXAS Woodbine—Trinity sand wildcats starting shortly offer best chances big quick money. Leases—Royalties. E. CROFT, PROCTOR, TEXAS.

Leasing and Drilling Blocks

FOR SALE—640 acres land western North Dakota with bentonite deposits. Lee H. Dierdorff, Fort Morgan, Colorado.

NEW MEXICO
State Oil and Gas Leases
Forty acres and multiples thereof at $6.00 to $60.00 per forty in the Hot Spots. No junk! Buy where the major companies own leases. Write for lists. Twenty years in the business and not a complaint.
HARRY S. WRIGHT, STATE LESSEE
Registered Dealer—State of Iowa
Box 166, Council Bluffs, Iowa
Box 347, Santa Fe, New Mexico.

Money Raising

WANT CAPITAL to invest in perpetual mineral rights in North Permian Basin in Texas and New Mexico in major company blocks on geophysical highs. Rapid development under way now. Will take interest after all monies have been repaid. Address, Box 769, Plainview, Texas.

Legal Blanks

SINCE 1908 Burkhart's legal forms—serving Mid-Cont. oil fields, including Ill., La., Mo., Ind. & Ky. Free catalog & samples. Burkhart Ptg. & Sta. Co., 115 So. Cinn., Tulsa, Okla.

For Sale—Maps

NEW MEXICO TOWNSHIP PLATS. $1.00 each; 4 in same area $3.50 covering all LEA, Eastern ROOSEVELT and EDDY COUNTIES—showing ownership and OIL DEVELOPMENT.
ZINGERY OIL MAP COMPANY
Fair Bldg. Fort Worth, Tex.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G Guyer, Inc., Wilmington, Delaware.

CHARTERS—Delaware best, quickest, cheapest, more liberal. Free forms Colonial Charter Co., Wilmington, Del.

Survey Service

REMEMBER EAST TEXAS
When all other methods fail, employ my divining or dowsing method. If oil exists this method finds it. Faults, broken, treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years' experience. A wise man investigates. George Miller, 1548 Post, Torrance, Calif.

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
703 Kennedy Bldg., Tulsa, Okla.

WILL BUY non-producing landowners royalty—under drilling wells only. P. H. HAWLEY, 727 W. 7th St., Los Angeles, Calif.

WANTED producing oil royalties and oil payments in North and West Texas and New Mexico. P. O. Box 1535, Fort Worth, Texas.

OWNERS of fractional landowners royalty interests still paying send full details to City Investing Co., 434 Roosevelt Bldg., Los Angeles, Calif.

WANTED non-producing land owners royalty under drilling wells only. Eldon J. Dick, 305 Public Service Building, Tulsa.

ROYALTY INTERESTS bought and sold; under TEXAS, GULF and SUN blocks, Concordia Parish, Louisiana. Inquiries and offerings invited. J. G. REAVES, REAVES BLDG., TYLER, TEXAS.

Mailing Lists

ROYALTY Lists. Unit Owners Lists. Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Building, Tulsa, Oklahoma.

Financing

CAPITAL SEEKERS
Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

Situations Wanted

EXPERIENCED salesman now traveling Mid-Continent oil fields wants specialty products to sell through supply stores, dealers or direct in Kansas, Oklahoma, and Texas. Address Box K-112, The Oil and Gas Journal, Tulsa, Okla.

MECHANICAL engineer continuously employed 16 yrs. now available. Oil production, equipment design and executive management. Working knowledge of French, Spanish, English. Unmarried. Travel or reside abroad if required. R. M. Benardeau, Box 827, Oklahoma City, Okla.

OIL SPECIALIST tax consultant. Age 37. C.P.A. 14 yrs. experience, which includes systematizing, financial reports, and diversified public accounting. Highest credentials as to integrity and creative ability. Address Box K-130, The Oil and Gas Journal, Tulsa, Okla.

Help Wanted

WANTED—Specialty men to sell well known Valve Cup in Oklahoma, Texas, Louisiana, Kansas, and Pennsylvania. Strictly commission basis. Must have good connections with jobbers and producers. Good commission rate for men who can produce. Address Box K-120, The Oil and Gas Journal, Tulsa, Okla.

CLASSIFIED ADVERTISING RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
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Classified Display is set with a border and may be used in one or two column sizes

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

COMPLETE KELLOGG CRACKING UNIT

3000 bbl. cap. Kellogg Cracking Unit—Two Furnaces—Pacific Centrifugal Charging Pumps all Complete.

Will sell "as is and where is" or take turnkey job for dismantling and reerection.

Send us your inquiries.

PRICED FOR IMMEDIATE SALE

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry or H. J. Galamba,
Riverview at Second, Kansas City, Kansas

Robt. W. Duden,
2100 S. Union, Tulsa, Oklahoma

FOR SALE

50,000 feet of 2" line pipe.
20,000 feet of 6" line pipe.
Located in Oklahoma.

We also have in Shreveport, Louisiana, a complete stock in all sizes—Line Pipe, Casing, Drill Pipe.

Branches in Ark-La-Tex area; also at St. Elmo, Illinois.

Wire, write or phone.

Louisiana Iron & Supply Company
Shreveport, Louisiana

FOR SALE

48' x 160'—16' Walls, hvy. construction Wisconsin Bridge & Iron Steel Building. 18 and 22 Ga. Galv. Iron. Located at Maud, Okla. $4,000.00 as stands, erected on present location.

48' x 80'—16' Walls hvy. construction Wisconsin Bridge & Iron Steel Building. 18 and 22 Ga. Galv. Iron. Located at Garber, Okla. $2,400.00 as stands erected on present location.

THE NATIONAL SUPPLY CO.
TULSA, OKLA.

FOR SALE

Heavy Cable Tool Outfit 87' x 437,000# capacity Lee C. Moore Derrick, with 6 manganese sheave chain oiling crown block, steel walking beam, steel pitman with self aligning bearings, oil bath side irons, heavy steel bandwheel, bullwheels, calfwheel, with bands, levers, and staples, irons, etc. Complete and in guaranteed A-1 condition, a real bargain at $2,200.00 f.o.b. Tulsa. Address Box K-131, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE—8—40 H.P. 2-cycle Superior Gas Engines, completely reshopped. Also spare parts and clutches. Located Seminole, Okla.

NOLAN SALES CORPORATION
Tulsa, Okla. — Seminole, Okla.

USED VALVES AND PIPE FITTINGS large stock cast steel, cast iron, SE and FE reconditioned and guaranteed.

USED ELECTRIC MOTORS
60 HP 1800 RPM, 25 HP 3600, 15 HP 3600, 3 HP 1800, 440v—60cy—3ph.
HARRIS PRUITT & COMPANY
P. O. Box 812 Ft. Worth, Tex.

TRACTORS

Government crawler type Caterpillars, 5 ton $375, 10 ton $695, Slightly used. Perfect condition.

O. C. EVANS
Mt. Sterling, Ky.

---

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.

CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

FOR SALE—One Wilson Giant winch powered by P A 100 International motor. Perfect working condition. Earl H. Carter, Box 1227, Shreveport, La.

BOILERS FOR SALE

3 Freeman Mfg. Co. Scotch Marine type boilers—1930—78-inch diameter, 12 feet long—Serial Number 3123, 3124, and 3131; size 125 H. P., 150 lbs. working pressure will be allowed by code after reconditioning recommended by inspector.

Prices including John Zink Bi-mix burners and 3-foot x 60-foot stacks, all F.O.B. Pampa, Texas:

Boiler No.	Present Condition	Reconditioned A.S.M.E. Code
3123	$1,150.00	$1,500.00
3124	825.00	1,500.00
3131	825.00	1,500.00
	$2,800.00	$4,500.00

2 Casey-Hedges Mfg. Co. Scotch Marine type boilers—1920—84-inch diameter, 13 feet 4 inches long—Serial No. 6109 and 6110, size 150 H. P., 100 lbs. working pressure will be allowed by code after reconditioning by inspector.

Prices including John Zink Bi-mix natural gas burners, all F.O.B. Pampa, Texas.

Boiler No.	Present Condition	Reconditioned A.S.M.E. Code
6109	$1,150.00	$1,500.00
6110	1,150.00	1,500.00
	$2,300.00	$3,000.00

Wire, write, or phone

CARGRAY CORPORATION
801 Amarillo Bldg.
Amarillo, Texas

FOR SALE—SACRIFICE PRICE

TEN Complete Rotary Drilling Rigs. Steam and Diesel Powered. Large and Small.

Large Amount of Extra Drilling Equipment, Boilers, Engines, Pumps, etc.

TEN White Trucks Equipped for Oil Field Hauling.

All equipment in good condition and modern. Will sell any part or all. Especially suited for foreign country. Write me your wants.

ED. BRIGHT
606 N. Field St. Dallas, Texas

FOR SALE

Model 55, heavy duty Wichita Falls Spudder, recommended for 4000 ft. drilling, in new condition. Complete with drilling engine, light plant, drilling and casing tools, Wilson elevators, small tools and steel tool house, located at St. Elmo, Illinois. C. L. JORDAN, Bristow, Okla. Phone 502, or The National Supply Company, St. Elmo, Illinois.

FOR SALE

HOUSTON, TEXAS INDUSTRIAL DISTRICT. 27 acres whole or part. Steel shed 75x300; equipped with 7 ton Milwaukee traveling crane, ideal for oil tool manufacturing plant. Rail, water, highway connections. Further details upon request. Write, phone, or wire: The Vaughan Lumber Co., P. O. Box 1447, Houston, Texas.

---

2 FORDSON tractors with rear-end Bearcat Winches. 3 10-20 McCormick-Deering Skid type pulling units with front-end Bearcat Winches.

READY TO RUN—SEE TO APPRECIATE
FRANKS MANUFACTURING CORP.
P. O. Box 137, Whittier Station
Tulsa, Okla. Phone 8276

FOR SALE: Two 6' x 42' Smithweld Pressure vessels with 3" wall. The National Refining Co., Hanna Bldg., Cleveland, Ohio.

FOR SALE OR LEASE—Class E Sanderson Cyclone 1,500-ft. drilling machine located in Ohio. Address Box K-123, The Oil and Gas Journal, Tulsa, Okla.

Ranches and Farm Lands

SPORTSMEN and HUNTERS ATTENTION!

Wild turkey, deer, quail, etc. Own your own hunting preserve located in the heart of game section in Louisiana. For sale in tracts of from 10 to 1000 acres. Excellent goose and duck shooting, and fishing nearby. Write

BOX 182
Vicksburg, Mississippi.

WESTERN KENTUCKY

OWENSBORO, Ky., June 5.—Snowden & McSweeney No. 1 C. H. Abell Estate, in the Thurston district, Daviess County, while it was not believed to show as much promise as the discovery well of J. C. Preston, on the Abell estate, was regarded as a good well. It was not completed when this report was written, but was drilling in the third break in the McClosky lime. The Preston well, which is across the old Hardinsburg Road from the Snowden & McSweeney well, was on the pump, but no gage had been obtained. The oil is being piped to storage pending the completion of the Ashland Refining Co. line into the area. Snowden & McSweeney have made a location for No. 2 on their Abell lease, 1,000 ft. from No. 1.

Following is the record of completions of the week in the western Kentucky fields, together with new work started:

Butler County, Quality district: Penn-Tuck Oil Co. No. 1 V. Anderson, drilling at 100 ft. Huntsville district: Cumberland Petroleum Co. No. 2 Ora Brown Heirs, location.

Daviess County, Thurston district: Snowden & McSweeney Co. No. 1 C. H. Abell Estate, 100 acres, small show in first break in the McClosky lime; drilling 2 ft. in the third break; 300 ft. of oil in the hole; looks like a good well. Utica district: W. E. Hupp and Cameron No. 2 Lula Akin, location; Master Oil Co. No. 2 Price Baird Heirs, 100-bbl. well in Jones sand, total depth 1,323 ft.; Chenault & Farmer No. 2 Jim Brown, rigging up; W. E. Hupp and others No. 3 Charles Delacy, 30-bbl. well in Barlow sand, total depth 1,363 ft.; W. E. Hupp and others No. 2-A Charles Delacy, set surface pipe, rig was skidded 35 ft. from No. 2, which was ruined. Birk City district: Kentucky-Missouri No. 2 Rebecca Boswell, rig on location; Major Oil Co. and Palmer Drilling Co. No. 5 Brown-Prudential Insurance Co., a dry hole at 1,905 ft.; Metro Oil Co. No. 1 Metropolitan Life Insurance Co., location; Palmer Drilling Co. and Major Oil Co. No. 6 Mirilda Wahl, total depth 1,898 ft., plugged back to 1,291 ft. to test Jett sand. Cane Run School district: Cane Run Petroleum Co. No. 11 R. E. Jackson, 20-bbl. well in Jett sand, total depth 629 ft. Yelvington district: C. J. Preston No. 1 Jessie Kelley, location.

Grayson County, 2½ miles northeast of Shrewsbury L. C. Young and others No. 1 William Dinwiddie, 200,000-cu. ft. gas well, total depth 1,746 ft.

Hancock County, Troy district: Perry Techenor No. 2 Sam Beauchamp, dry hole through McClosky lime; Jack Peurifoy and others No. 1 Wardelman, drilling at 200 ft. Lyonia district: Ira Huff and others No. 1 Lou Richards, 150,000-cu. ft. gas well in Jackson sand, drilling deeper.

Henderson County, Reed district: Snowden & McSweeney and others No. 1 William Chase, location; Spring Rose Drilling Co. and others No. 2 Ray Pillman, derrick up.

Ohio County, Taffy district: Jess Ashby and others No. 1 C. Carden, dry hole. Buford district, A. Teller, trustee, No. 3 Arthur Holland, drilling at 300 ft. Fordsville district: A. J. Stewart and others No. 3 Mary Ann White, west tract, drilling at 200 ft.

Webster County, Sebree district: I. Browning and others No. 1 Emil Sellers, rigging up.

EASTERN KENTUCKY

ASHLAND, Ky., June 5.—Kentucky West Virginia Gas Co. No. 5250, William Crider land, on Johns Creek in Floyd County, total depth 2,415 ft., in shale, 43,000 cu. ft. of gas per day.

Price Fraley No. 2 Robert Gray, on South Branch, Ida May district, Lee County, 25 bbl. of oil.

The Cane Run Petroleum Co. No. 10 Elizabeth Stacy, Estill County, total depth 218 ft., 5 bbl. of oil.

Columbian Fuel No. GW-824, Benton Smith No. 2, on Benton Branch in Pike County, total depth 1,803 ft., 2,100,000 cu. ft. of gas.

United Carbon Co. No. 779, Republic Steel Corp. No. 1 land, on Greasy Creek, Pike County, total depth 3,794 ft., in Big lime, 103,000 cu. ft. of gas.

United Carbon Co. will drill deeper in No. 790, Republic Steel Corp. No. 2, also on Greasy Creek in Pike County, after reaching the 2,340-ft. mark where it gaged 360,000 cu. ft. of gas after acid treatment.

Hamilton Gas Co. No. 79-D, James Hatcher land, on Ivy Creek, Floyd County, total depth 1,193 ft., 643,000 cu. ft. of gas from Maxon sand.

Hamilton Gas Co. No. 80-D, James Hatcher land, Ivy Creek, Floyd County, total depth 1,203 ft., in Maxon sand, 1,061,000 cu. ft. of gas.

Bent Mountain Oil & Gas Co. will acidize No. 1, on the Varney & Deskins heirs land on Bevins Branch in Pike County. The well has reached a total depth of 3,542 ft.

Charles Coleman No. 1 William Carnes, on Road Fork of Stinking Creek, in Knox County, total depth 530 ft., 25,000 cu. ft. of gas from Jones sand. May deepen.

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